

# TECHNICAL INFORMATION



PRODUCT

P 1/20

Models No. ▶ AR410HR

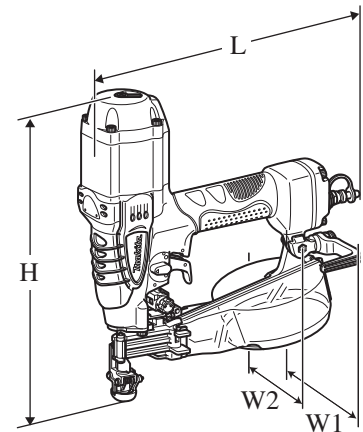
Description ▶ Pneumatic Auto Feed Coil Screwdriver

## CONCEPT AND MAIN APPLICATIONS

Model AR410HR is a pneumatic screwdriver powered by high pressure air. Drives coil type collated drywall screws exactly to depth and fastens plasterboard securely to wood/metal drywall stud.

Its main benefits are:

- Compact body for easy handling and high maneuverability
- High power allowing to fasten plasterboard securely to metal stud of even 0.8mm thick steel plate without unseated screw
- Optimum for operation in job sites among residential area thanks to low-noise air exhaust
- Rigid contact arm enabling to make fine finish constantly



Dimensions: mm	
Length (L)	296
Width 1 (W1)	142
Width 2 (W2)	116
Height (H)	305

Width 1: with Hook

Width 2: without Hook

## ► Specification

Screw	Screw type		Plastic sheet collated drywall screws (coil type)
	Shank diameter: mm	Wood backing	3.8 (Coarse thread)
		Metal backing	3.5 (Fine thread)
	Length: mm		25, 28, 32, 41
Screws per coil		100 screws	
Magazine capacity		100 screws	
Operating air pressure: MPa (kgf/cm <sup>2</sup> )		1.76 - 2.26 (18 - 23)	
Pressure regulator valve		Yes	
Fire mechanism		Bump-fire*1/ Sequential*2	
Driving depth adjustment		Yes (by dial)	
Trigger lock-off function		Yes	
Net weight: kg		1.9	

\*1: Screws can be driven one after the other continuously first by pulling Trigger then by bumping Contact arm against workpiece with the Trigger being pulled.

\*2: One screw is driven first by pushing Contact arm against workpiece, then by pulling Trigger with the Contact arm kept pushed; screw cannot be driven when the steps are reversed. Another one can be driven by releasing Trigger, then by repeating the steps; however, cannot be driven if Trigger is not released before repetition of the steps.

## ► Standard equipment

Hook .....	1
Safety goggles .....	1
Oil supply (containing 30ml of turbine oil) .....	1
Hex wrench 4 .....	1
Driver bit .....	1
Plastic carrying case .....	1

**Note:** The standard equipment for the tool shown above may vary by country.

## ► Optional accessories

Plastic sheet collated drywall screws (coil type)
[3.5mm shank diameter: 25, 28, 41mm; 3.8mm shank diameter: 25, 28, 32, 41mm]
Air hose
Air leak repair set

► **Repair**

**CAUTION: Disconnect the air hose from the machine and then remove remaining screws for safety before repair/ maintenance in accordance with the instruction manual!**

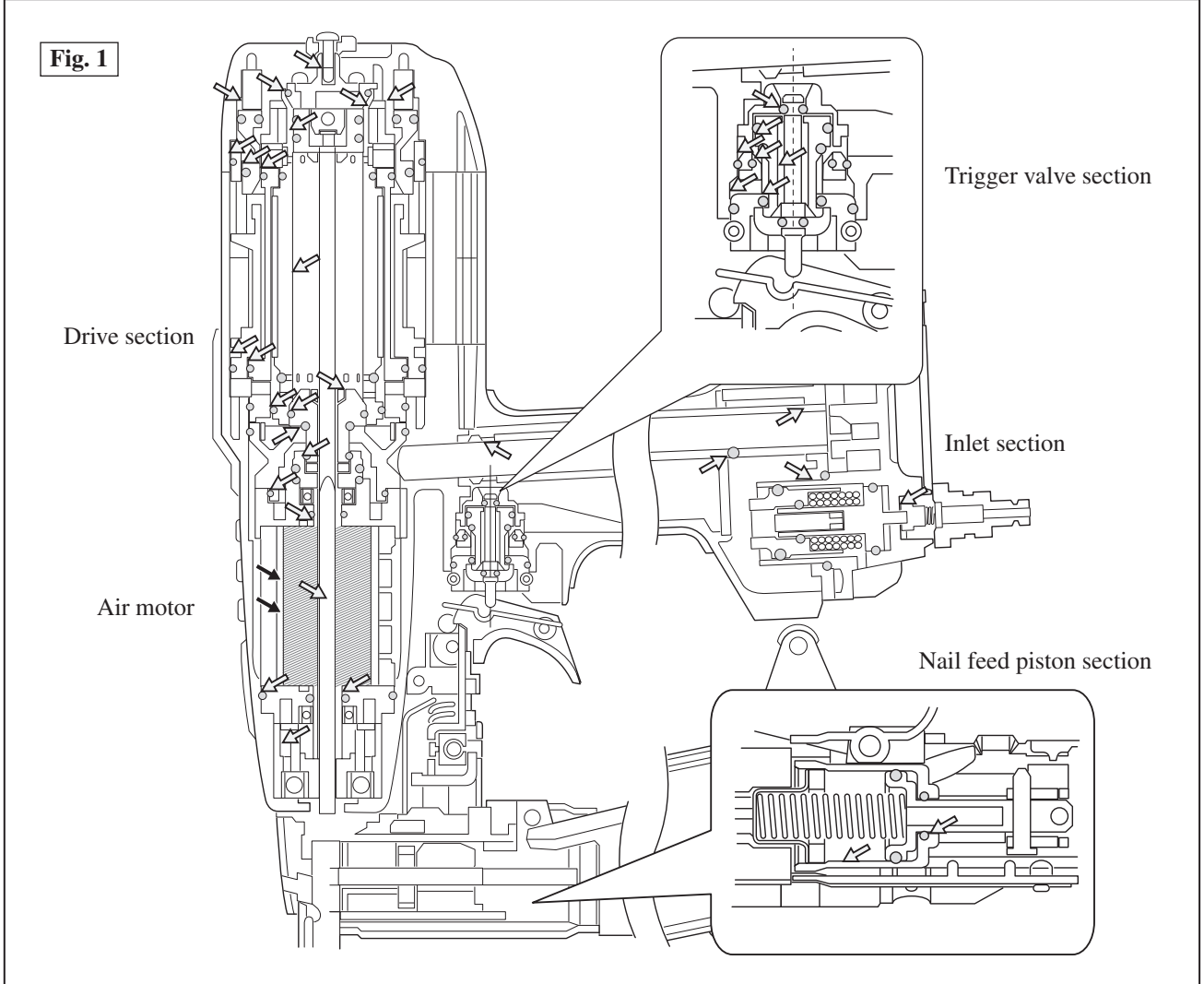
**[1] NECESSARY REPAIRING TOOLS**

Code No.	Description	Use for
1R003	Retaining ring S pliers ST-2N	Removing Pipe 13
1R027	Bearing setting pipe 18-10.2	Assembling Rotor
1R045	Gear extractor (large)	Disassembling Rotor
1R346	Center attachment for 1R045	
1R229	1/4" Hex. shank bit for M5	Screwing/unscrewing M5 Hex socket head bolt
1R266	Spring pin extractor 2	Disassembling Adjuster complete and Adjuster shaft
1R267	Spring pin extractor 2.5	
1R268	Spring pin extractor 3	
1R273	Ring spring 26 setting tool B	Assembling Air Motor section
1R291	Retaining ring S & R pliers	Disassembling/assembling Retaining ring R-24 from/to Feed piston

**[2] LUBRICATIONS**

Apply **ISOFLEX NB52** to the portions designated with the **white arrow**, and apply lubricant **VG32** to the portions designated with **black arrow**, to protect parts and product from unusual abrasion.

Item No.	Description	Portion to lubricate
	Nail drive section	Cylinder, O rings, Driver bit set, etc.
		Air Motor (Apply lubricant "VG32" to the Drum portion of Air motor.)
	Trigger valve section	O rings, Trigger valve case, Trigger stem, Pilot valve, etc.
	Inlet section	Plug, Inlet cap, etc.
	Nail feed piston section	Cup washer, O rings, etc.



► **Repair**

**[3] DISASSEMBLY/ASSEMBLY**

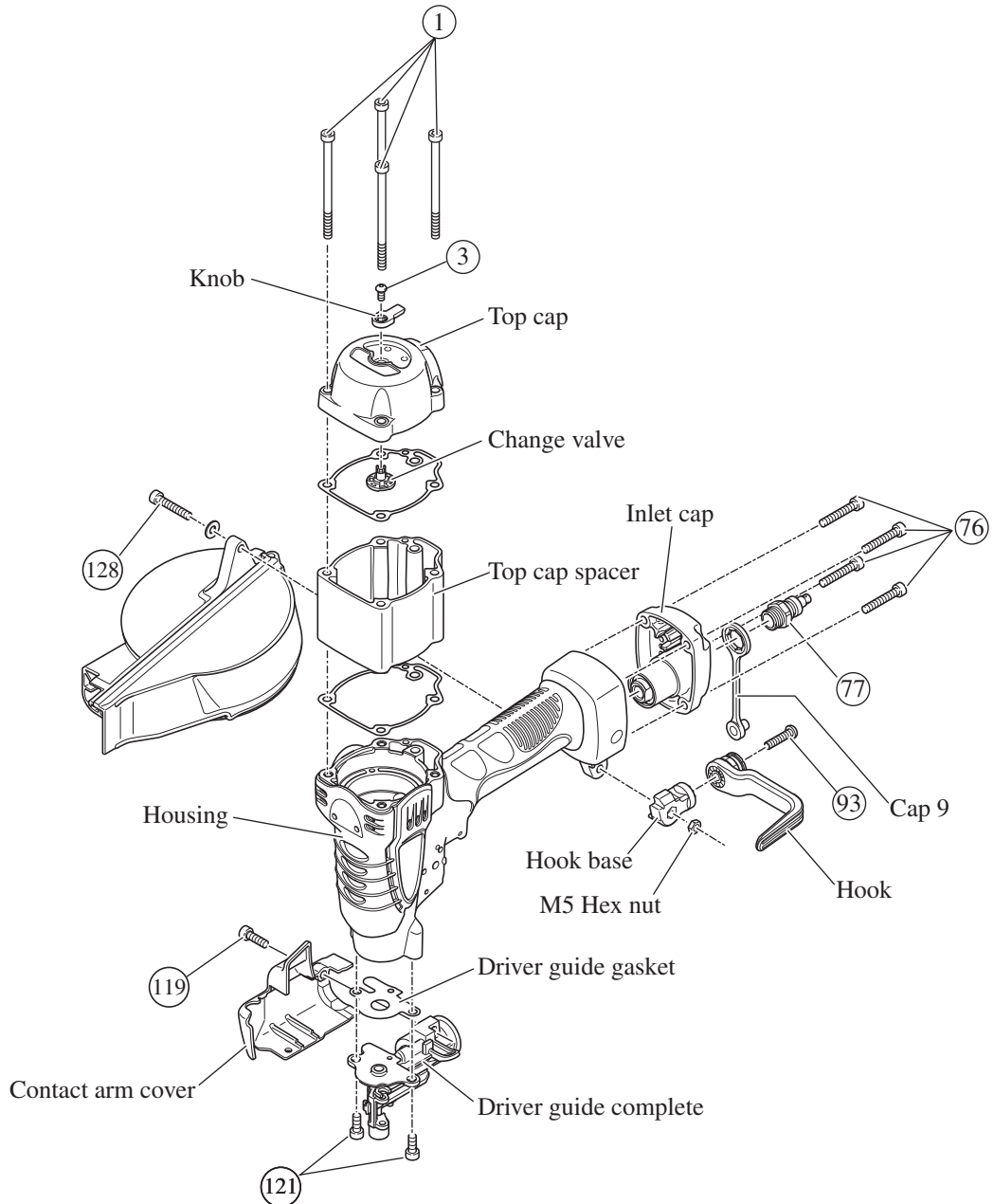
**[3]-1. Fastening Torque for Bolts and Screws**

Tighten the bolts and screws to the required fastening torque.

\* Apply a little amount of **Loctite 242** or **Three Bond 1321/1342** to the threaded portion of (77) Plug.

Item No.	Description	Q'ty	Used for	Fastening torque (N.m)
(1)	M5x80 Hex socket head bolt	4	Fastening Top cap and Top cap spacer to Housing	8.0
(3)	M4x8 Hex socket button head bolt	1	Fastening Knob to Change valve	2.5
(76)	M5x30 Hex socket head bolt	4	Fastening Inlet cap to Housing	8.0
(77)	Threaded portion of Plug	1	Fastening Inlet and Inlet cap 9 to Housing	7.0
(93)	M5x22 Pan head screw	1	Fastening Hook to Hook base	2.5
(119)	M5x16 Hex socket head bolt	1	Fastening Contact arm cover to Driver guide complete	2.5
(121)	M5x12 Hex socket head bolt	2	Fastening Driver guide complete to Housing	8.0
(128)	M5x28 Hex socket head bolt	1	Fastening Magazine and Hook base to Housing	2.5

**Fig. 2**



► **Repair**

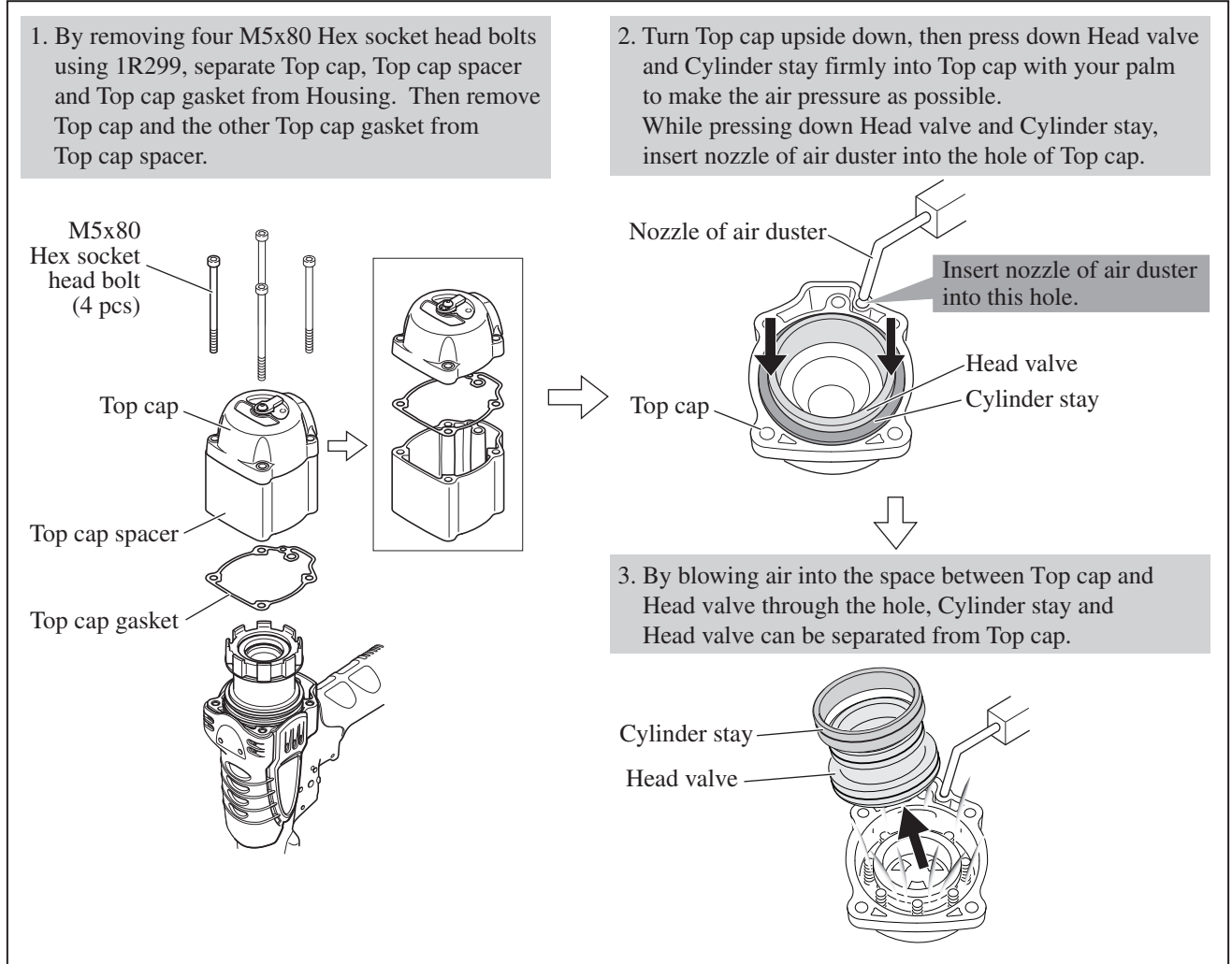
**[3] DISASSEMBLY/ASSEMBLY**

**[3]-2. Top Cap Section**

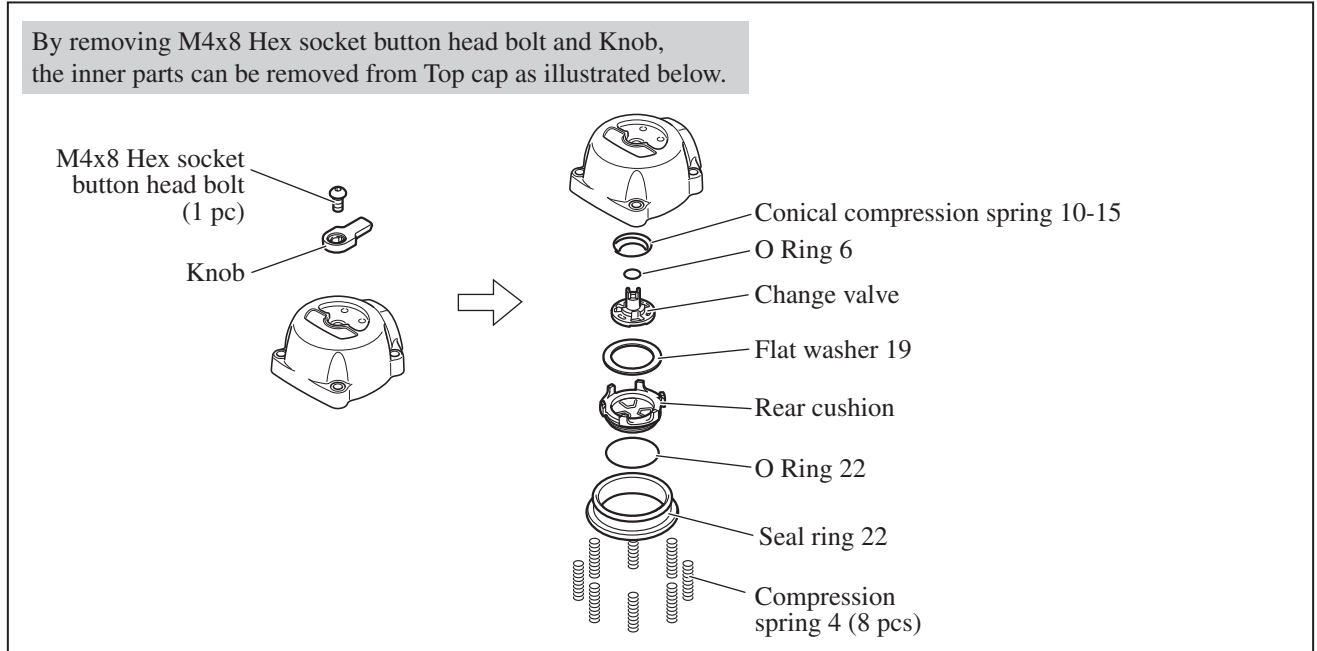
**DISASSEMBLING**

- 1) After removing Top cap and Top cap spacer from Housing, remove Head valve and Cylinder stay from Top cap using air duster to blow air into the space between Top cap and Head valve using air pressure. (Fig. 3)
- 2) Remove Knob from Top cap, then disassemble the other parts from Top cap as illustrated in Fig. 4.

**Fig. 3**



**Fig. 4**



► **Repair**

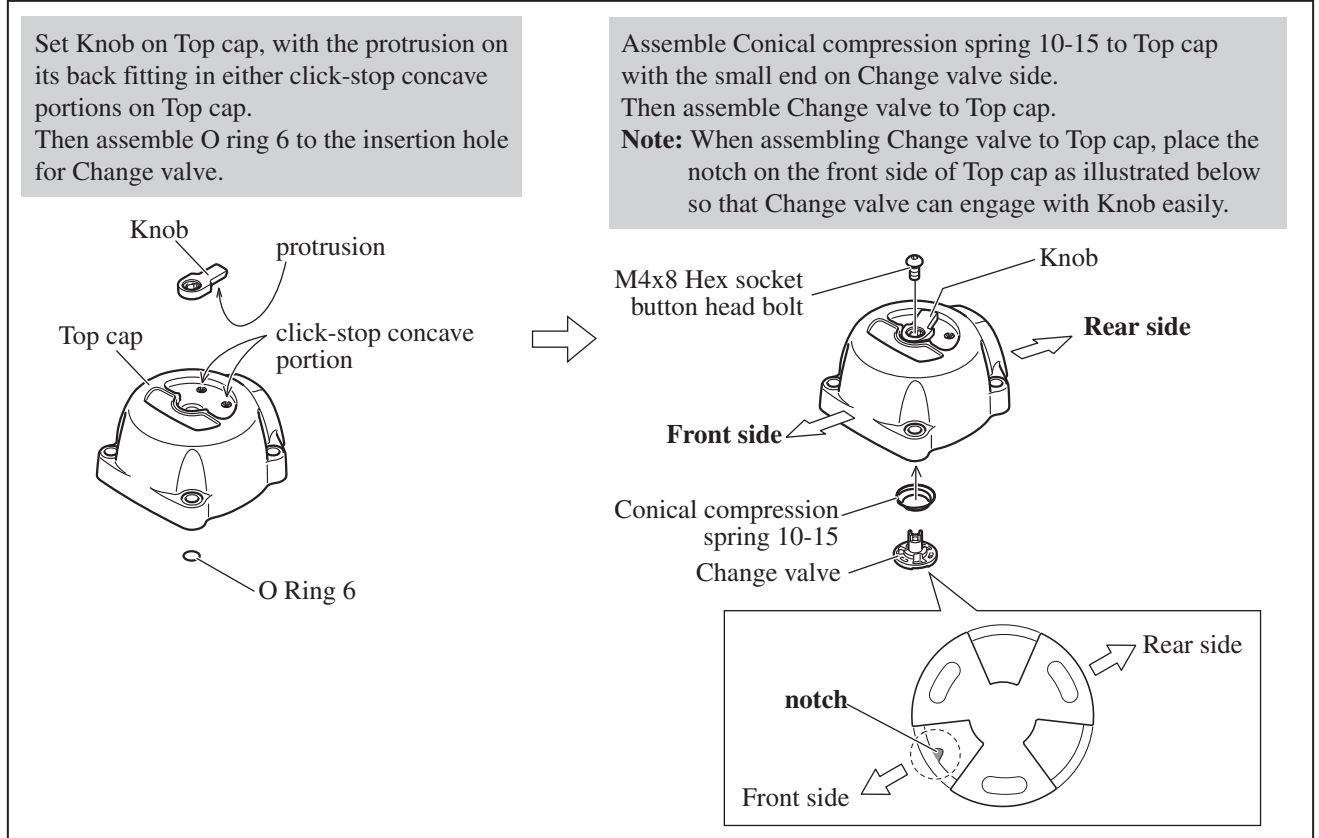
**[3] DISASSEMBLY/ASSEMBLY**

**[3]-2. Top Cap Section**

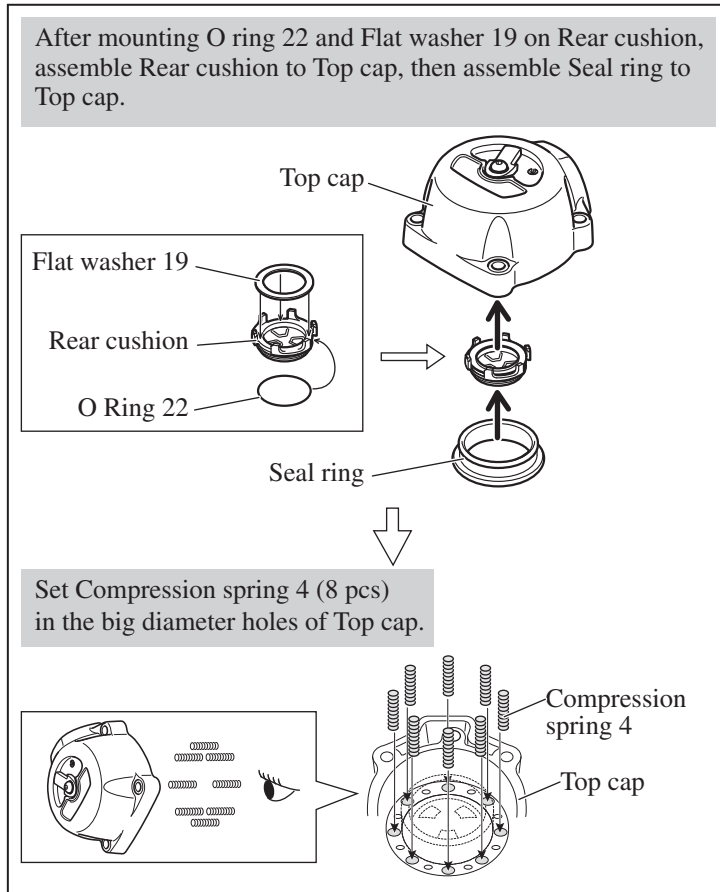
**ASSEMBLING**

- 1) Assemble Top cap section as described in **Figs. 5, 6.**
- 2) Assemble O rings to Cylinder stay and Head valve as described in **Fig. 7.**

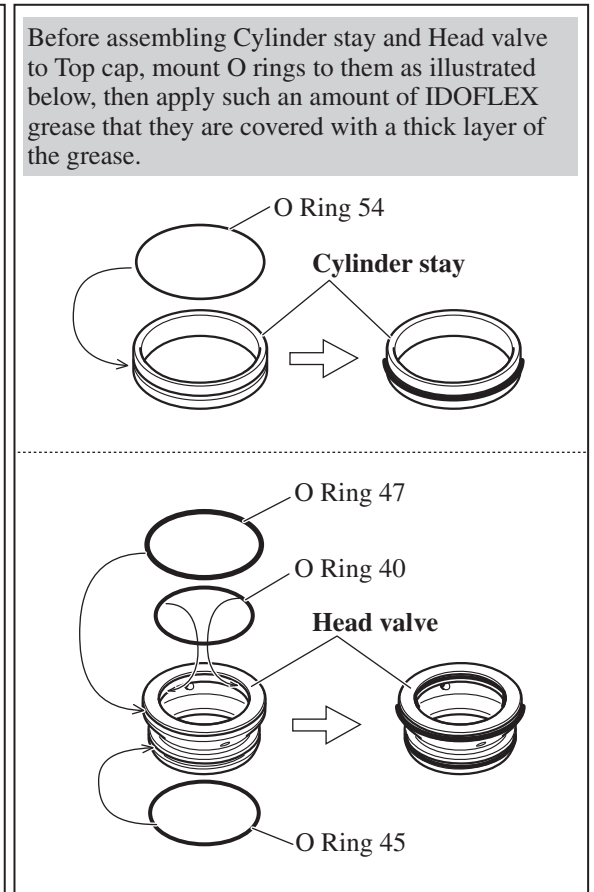
**Fig. 5**



**Fig. 6**



**Fig. 7**



► **Repair**

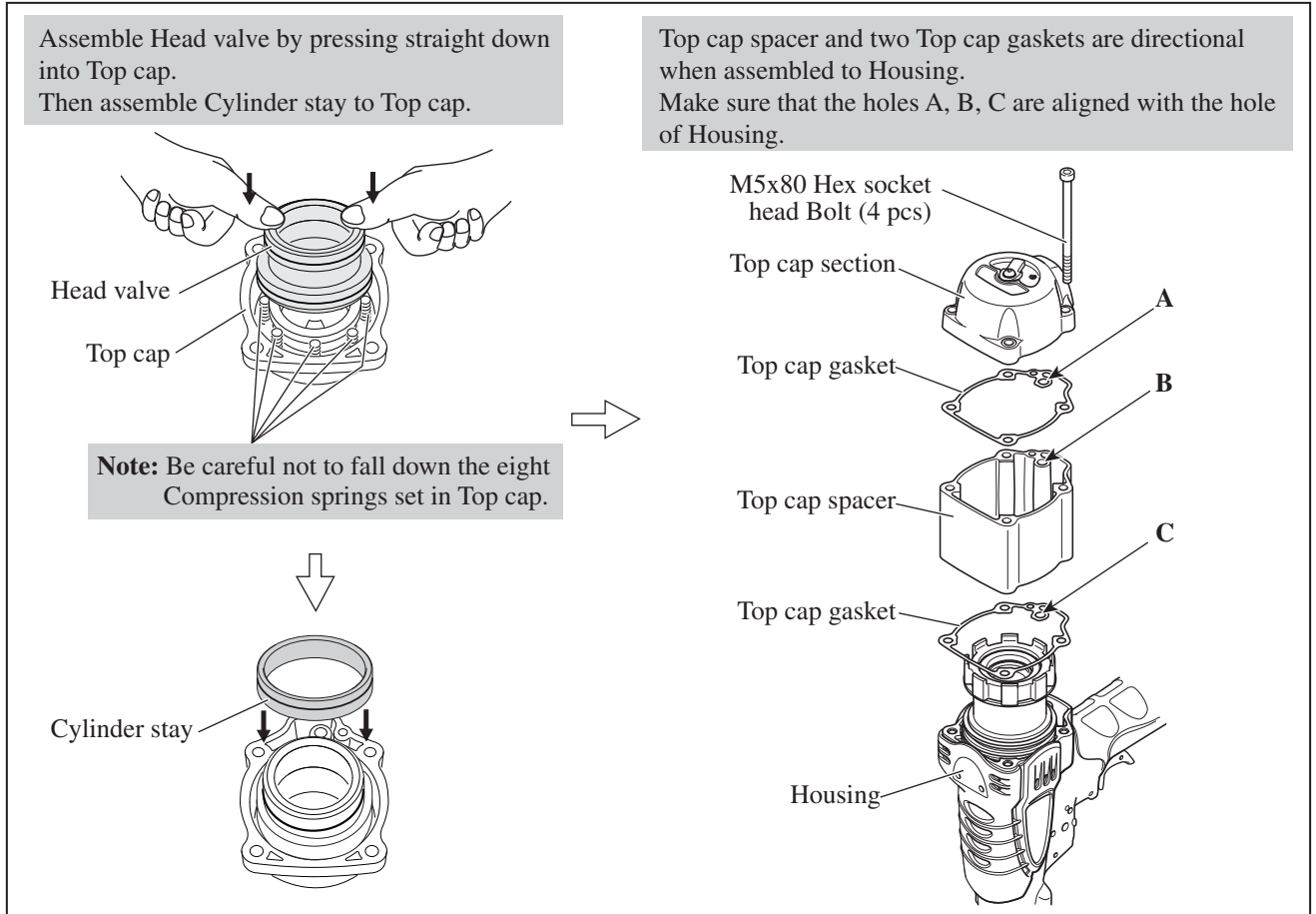
**[3] DISASSEMBLY/ASSEMBLY**

**[3]-2. Top Cap Section**

**ASSEMBLING**

- 3) Assemble Head valve and Cylinder stay to Top cap (left in **Fig. 8**); assembling of Top cap section is now completed. Then assemble Top cap section, Top cap spacer and Top cap gasket to Housing as illustrated on right in **Fig. 8**.

**Fig. 8**

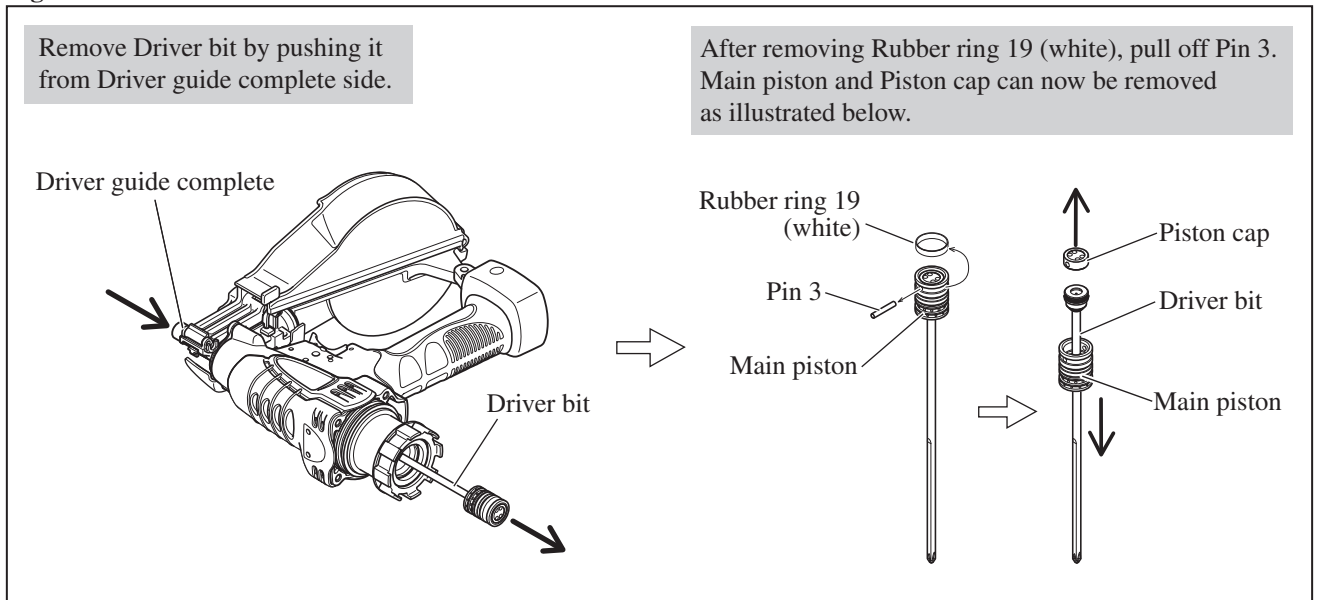


**[3]-3. Driver Bit**

**DISASSEMBLING**

- 1) Disassemble Top cap and Top cap spacer from Housing as described on left in **Fig. 3**.
- 2) Disassemble Driver bit as described in **Fig. 9**.

**Fig. 9**





## ► Repair

### [3] DISASSEMBLY/ASSEMBLY

#### [3]-3. Driver Bit

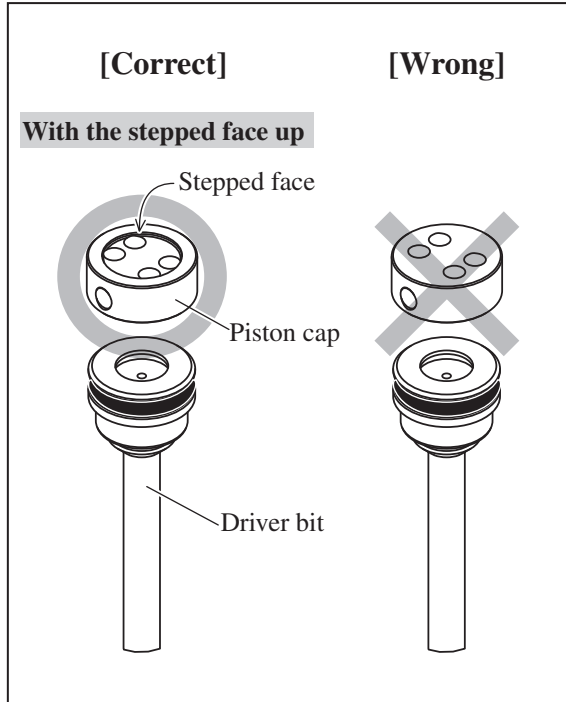
##### ASSEMBLING

Do the reverse of the disassembling steps.

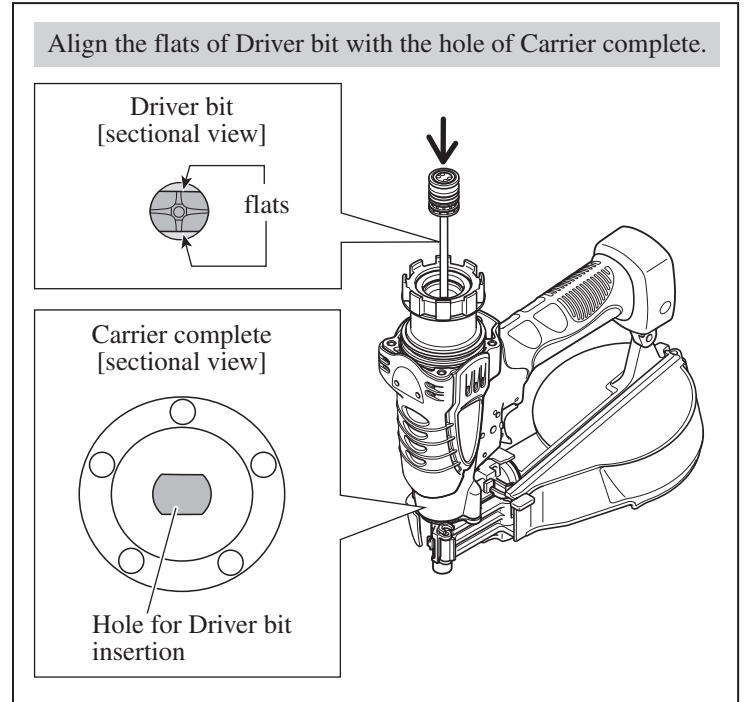
**Note:** Be careful with the following:

- Piston cap is directional when assembled to Driver bit. (**Fig. 10**)
- Align Driver bit with the hole of Carrier complete when assembling Driver bit to the machine. (**Fig. 11**)

**Fig. 10**



**Fig. 11**

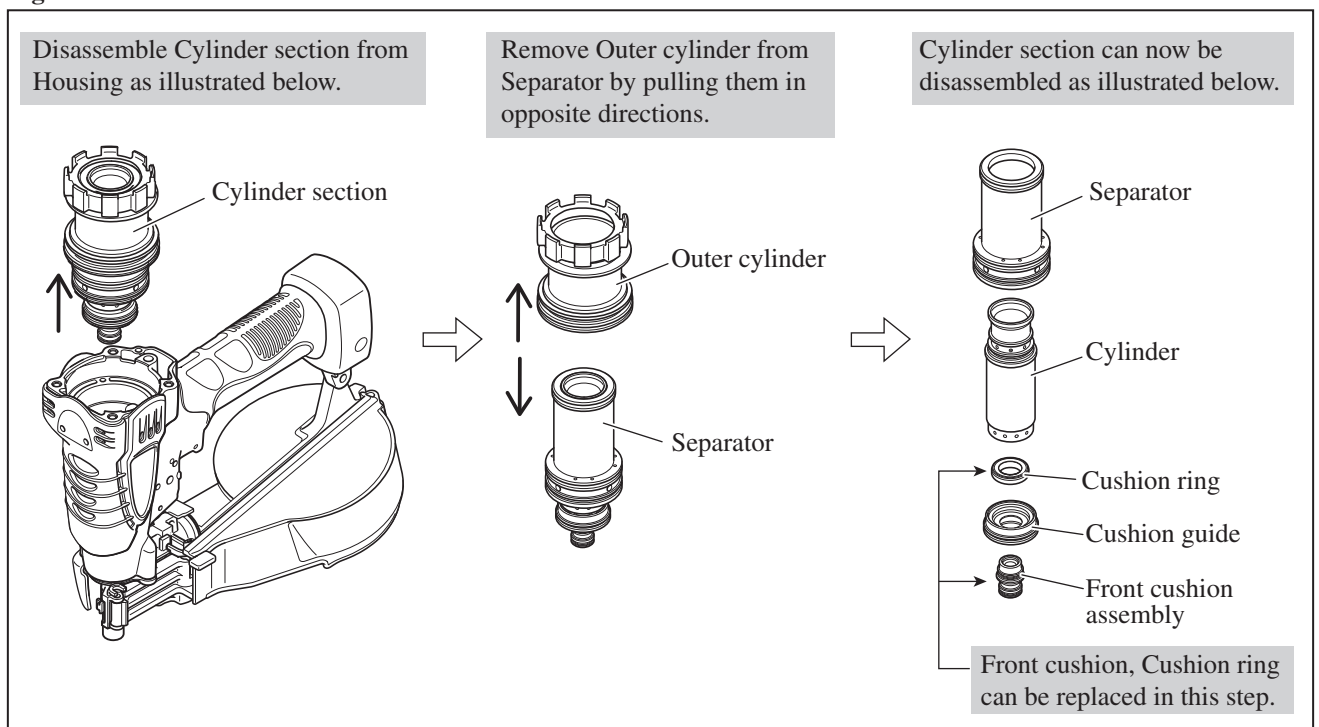


#### [3]-4. Cylinder Section

##### DISASSEMBLING

- 1) Disassemble Top cap and Top cap spacer from Housing as described on left in **Fig. 3**.
- 2) Disassemble Cylinder section as described in **Fig. 12**.

**Fig. 12**



## ► Repair

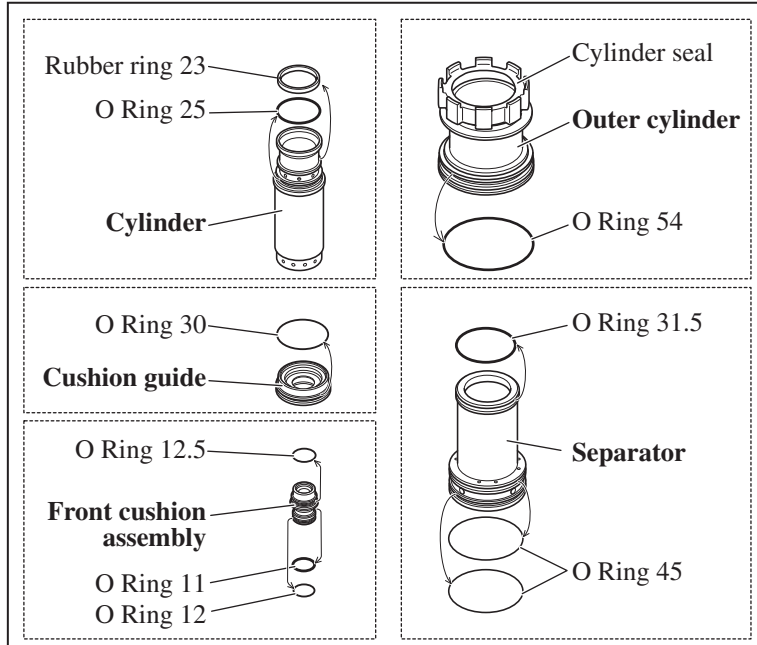
### [3] DISASSEMBLY/ASSEMBLY

#### [3]-4. Cylinder Section

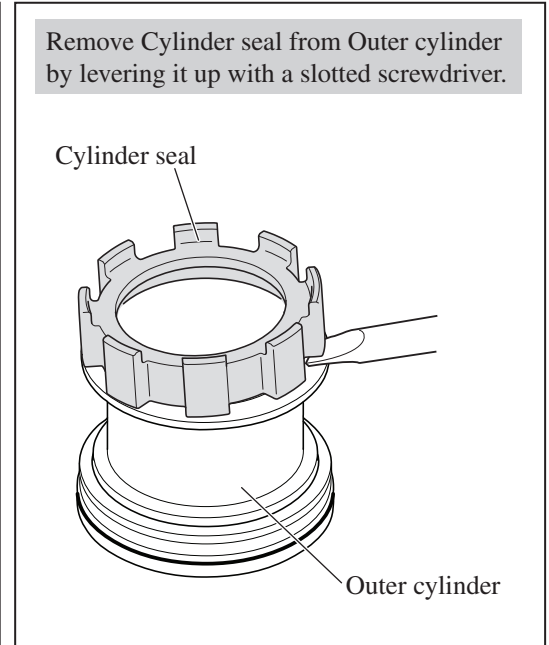
##### DISASSEMBLING

- 3) Sealing rings can be removed from Outer cylinder, Separator, Cylinder, Cushion guide and Front cushion assembly as illustrated in **Fig. 13**.
- 4) From Outer cylinder, remove Cylinder seal as described in **Fig. 14**.

**Fig. 13**



**Fig. 14**



##### ASSEMBLING

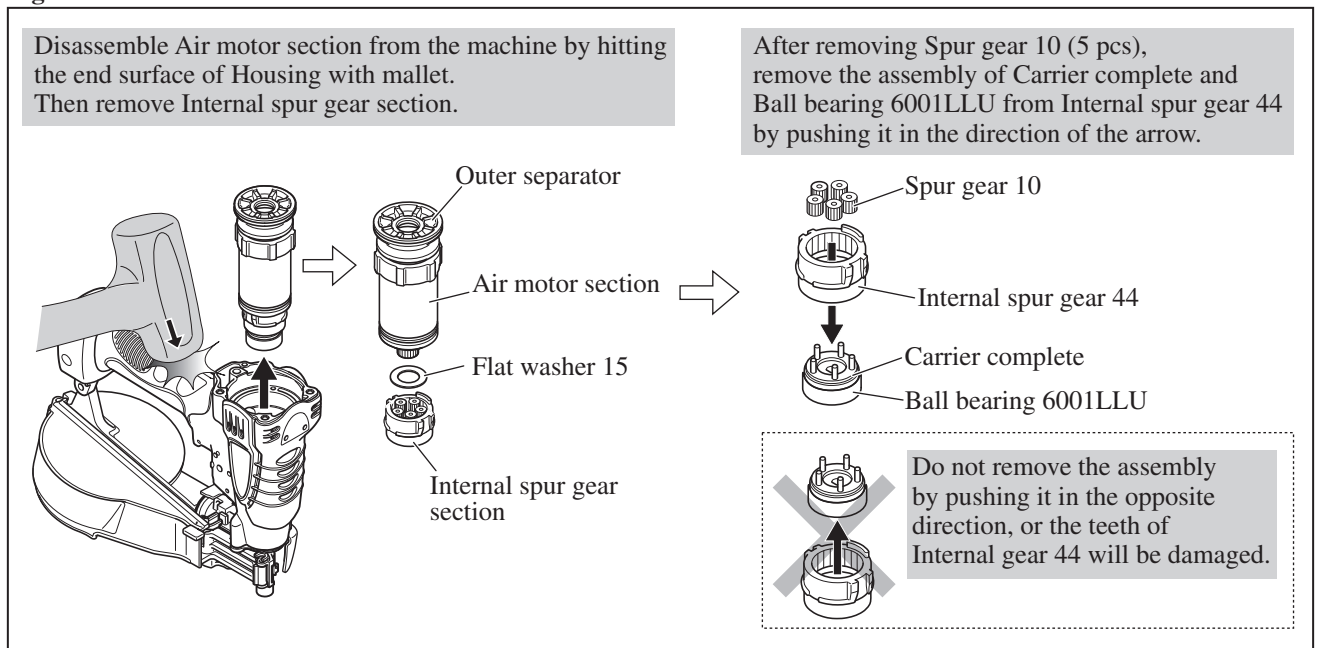
Do the reverse of the disassembling steps. (**Figs. 14, 13, 12, 3**)

#### [3]-5. Air Motor Section

##### DISASSEMBLING

- 1) Disassemble Top cap and Top cap spacer from Housing as described on left in **Fig. 3**.
- 2) Disassemble Cylinder section as described in **Fig. 12**.
- 3) Disassemble Air motor section from Housing, then remove Internal spur gear 44 as described in **Fig. 15**.

**Fig. 15**





## ► Repair

### [3] DISASSEMBLY/ASSEMBLY

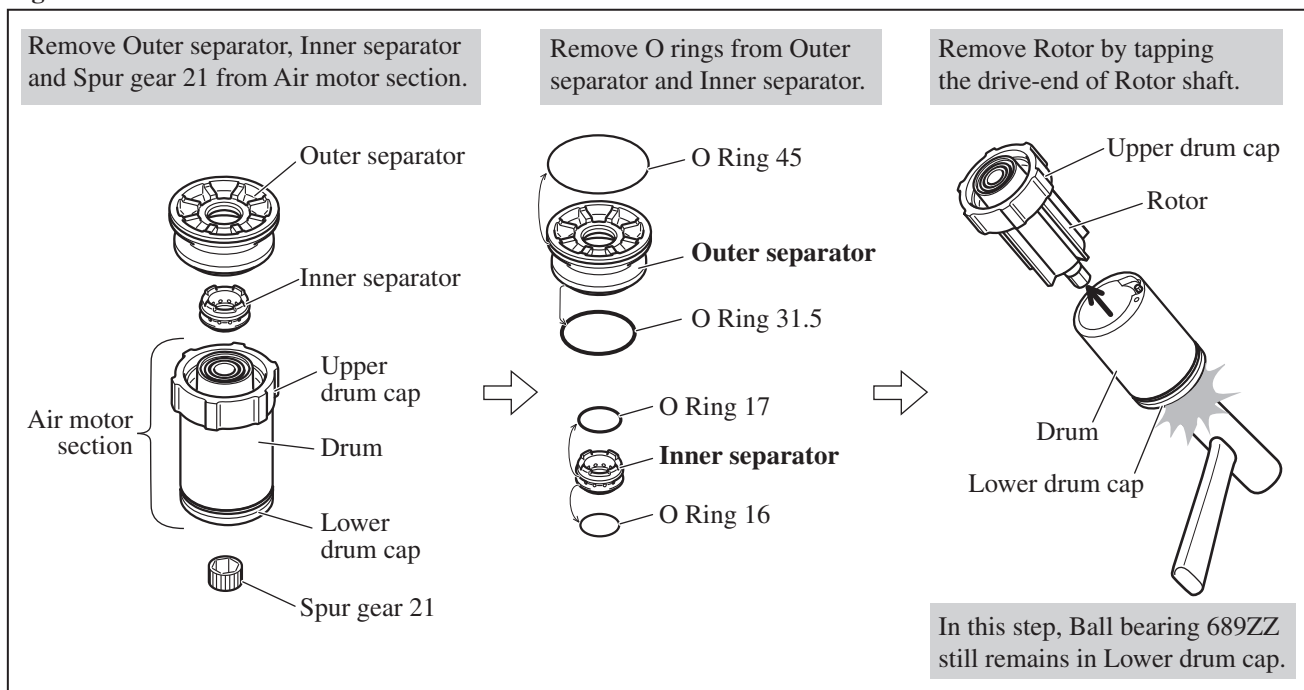
#### [3]-5. Air Motor Section

##### DISASSEMBLING

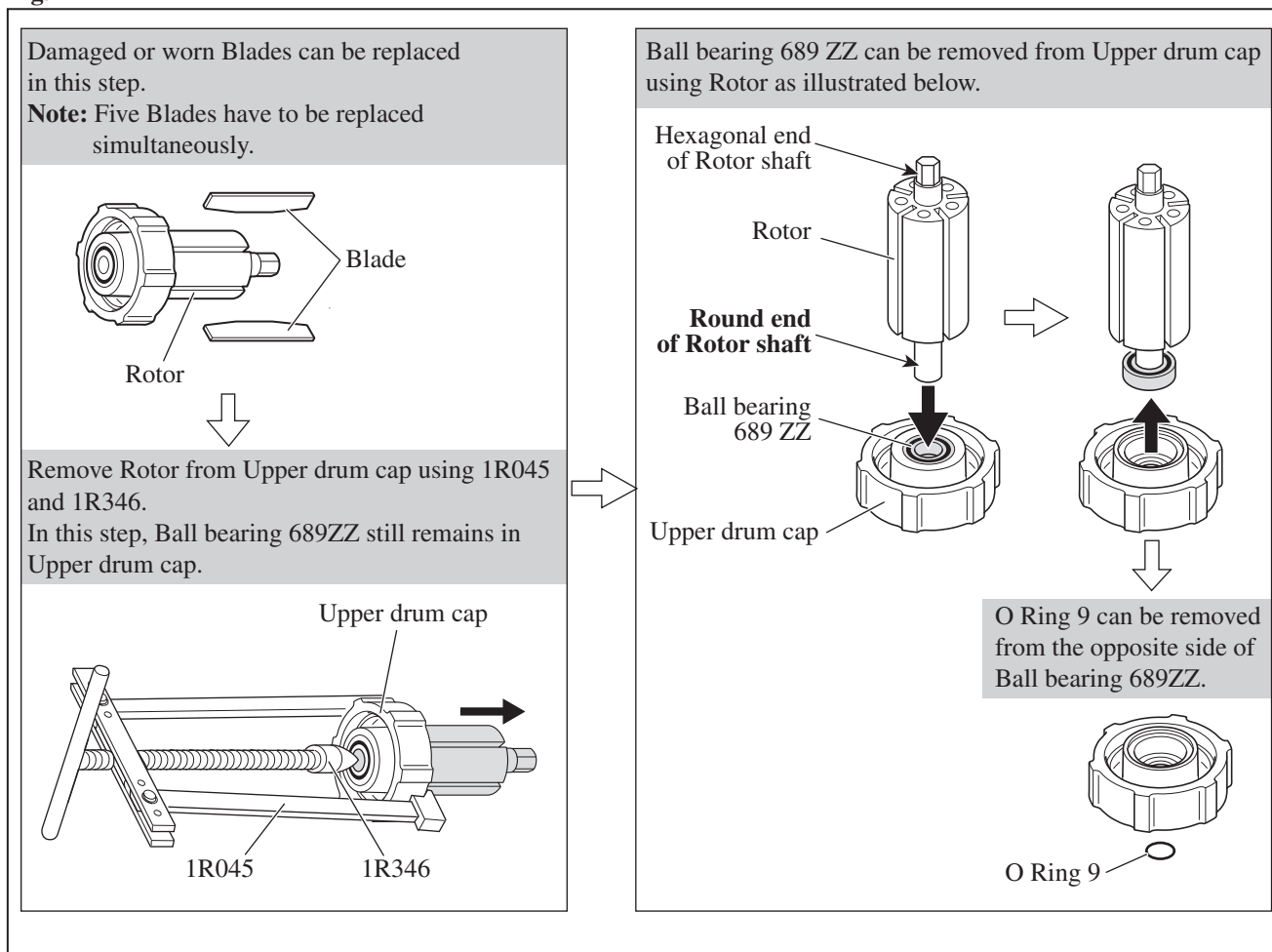
4) Disassemble Air motor section and remove Rotor and Upper drum cap as described in **Fig. 16**.

5) Rotor can be disassembled as described in **Fig. 17**.

**Fig. 16**



**Fig. 17**



► **Repair**

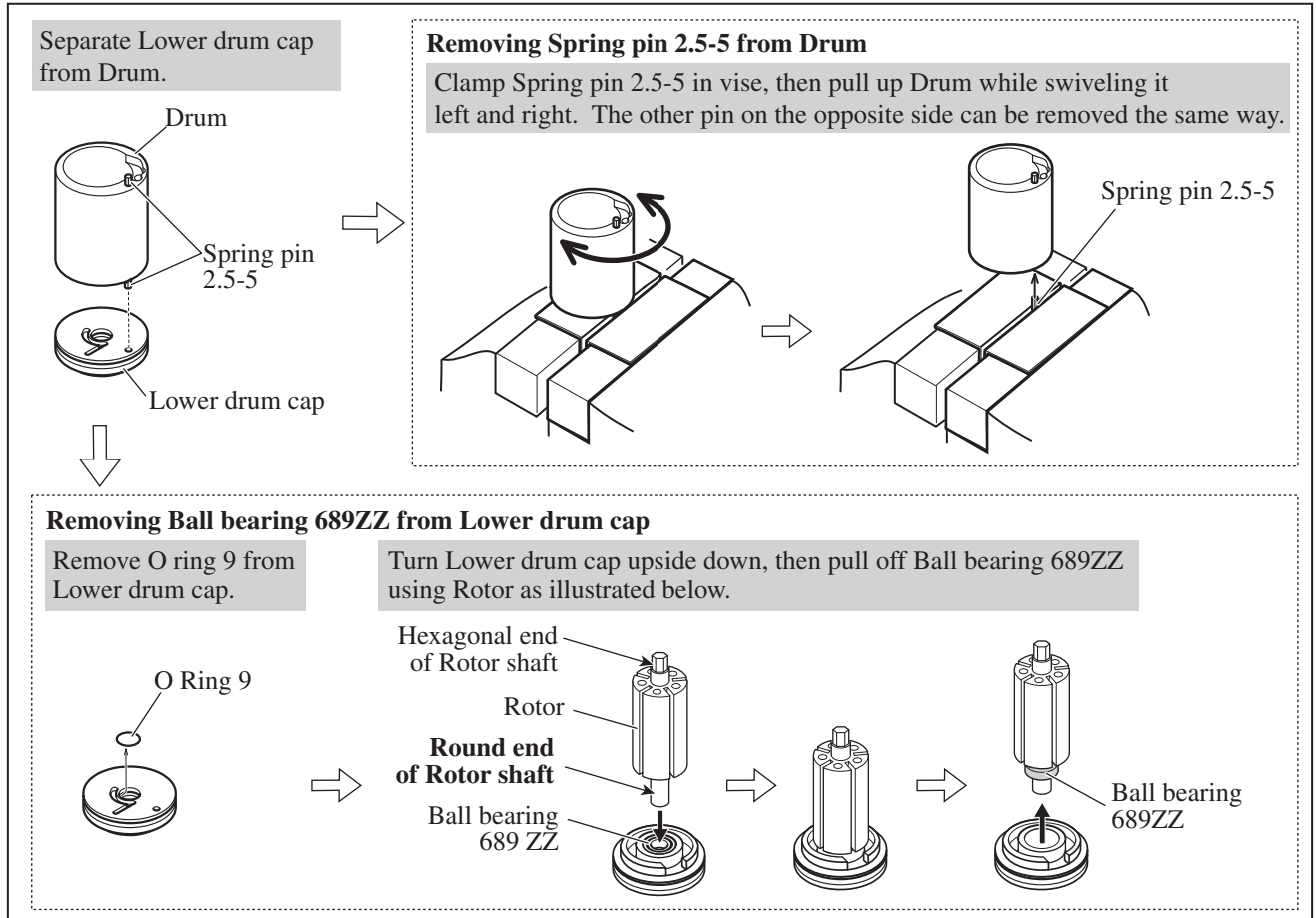
**[3] DISASSEMBLY/ASSEMBLY**

**[3]-5. Air Motor Section**

**DISASSEMBLING**

6) Spring pin 2.5-5 and Ball bearing 689ZZ can be removed as described in **Fig. 18**.

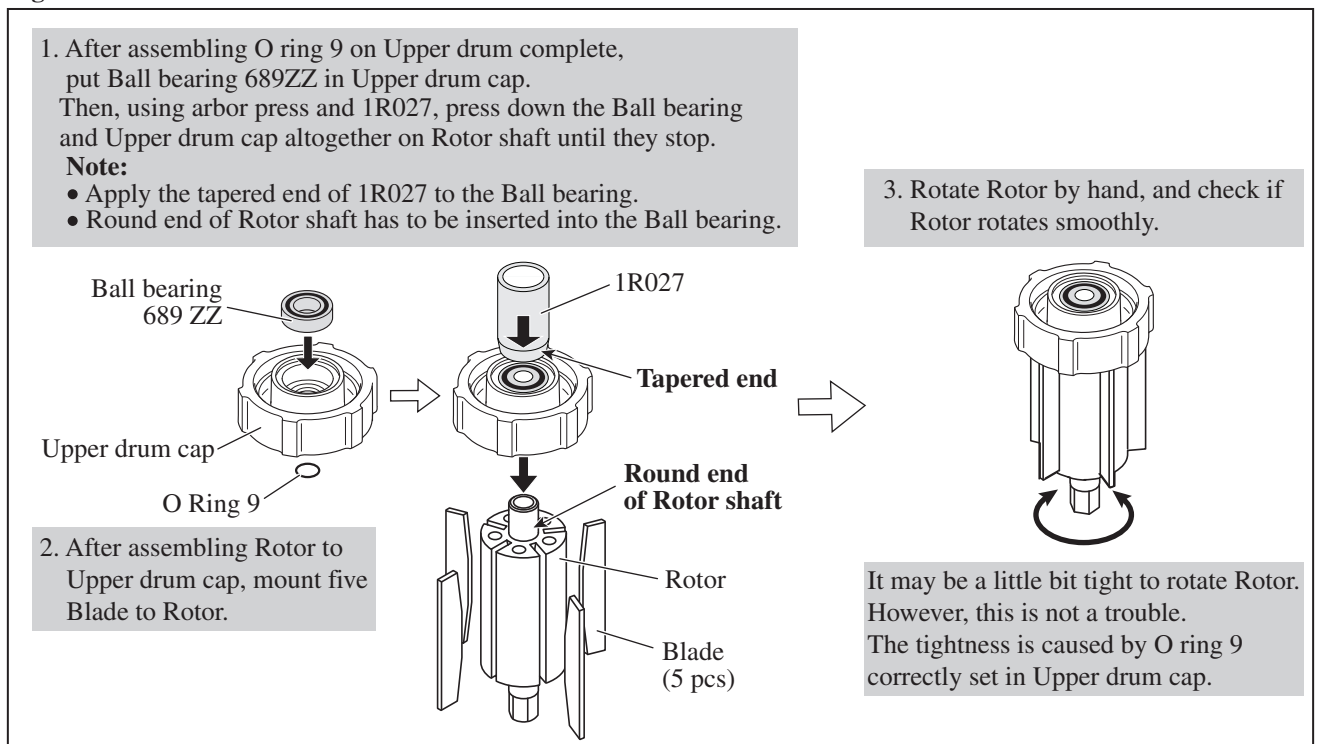
**Fig. 18**



**ASSEMBLING**

1) Assemble Rotor to Upper drum cap as described in **Fig. 19**.

**Fig. 19**



## ► Repair

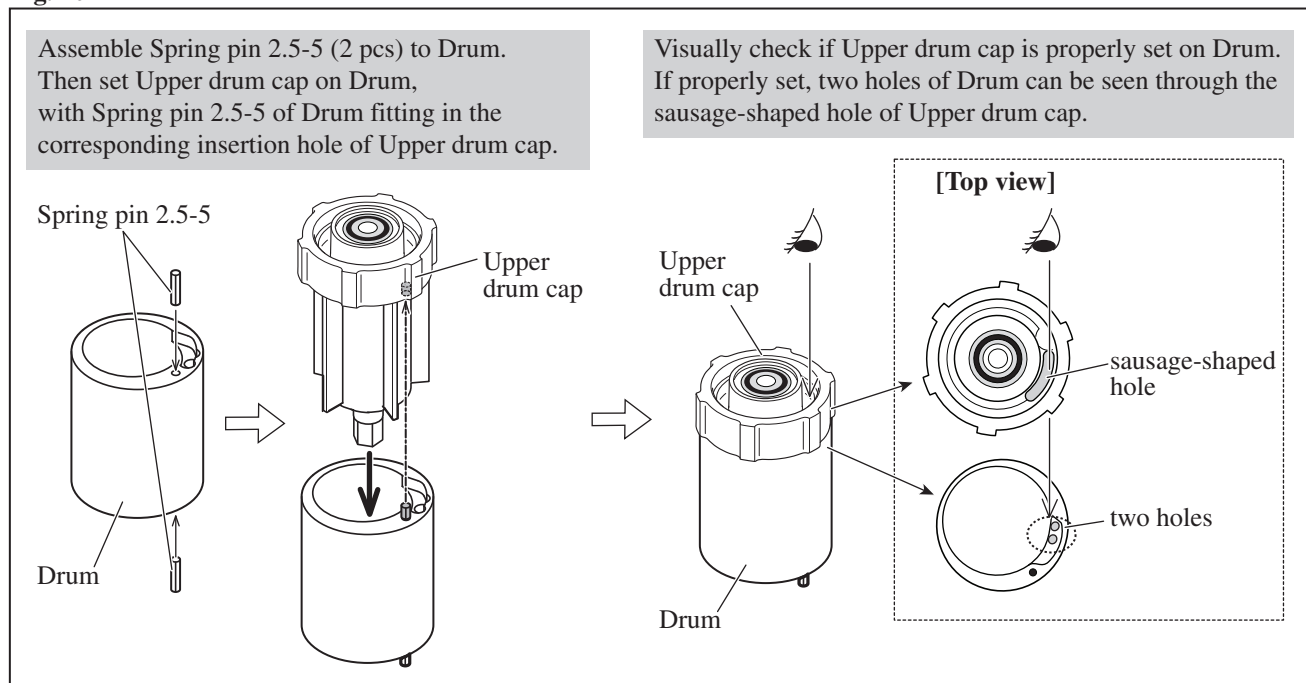
### [3] DISASSEMBLY/ASSEMBLY

#### [3]-5. Air Motor Section

##### ASSEMBLING

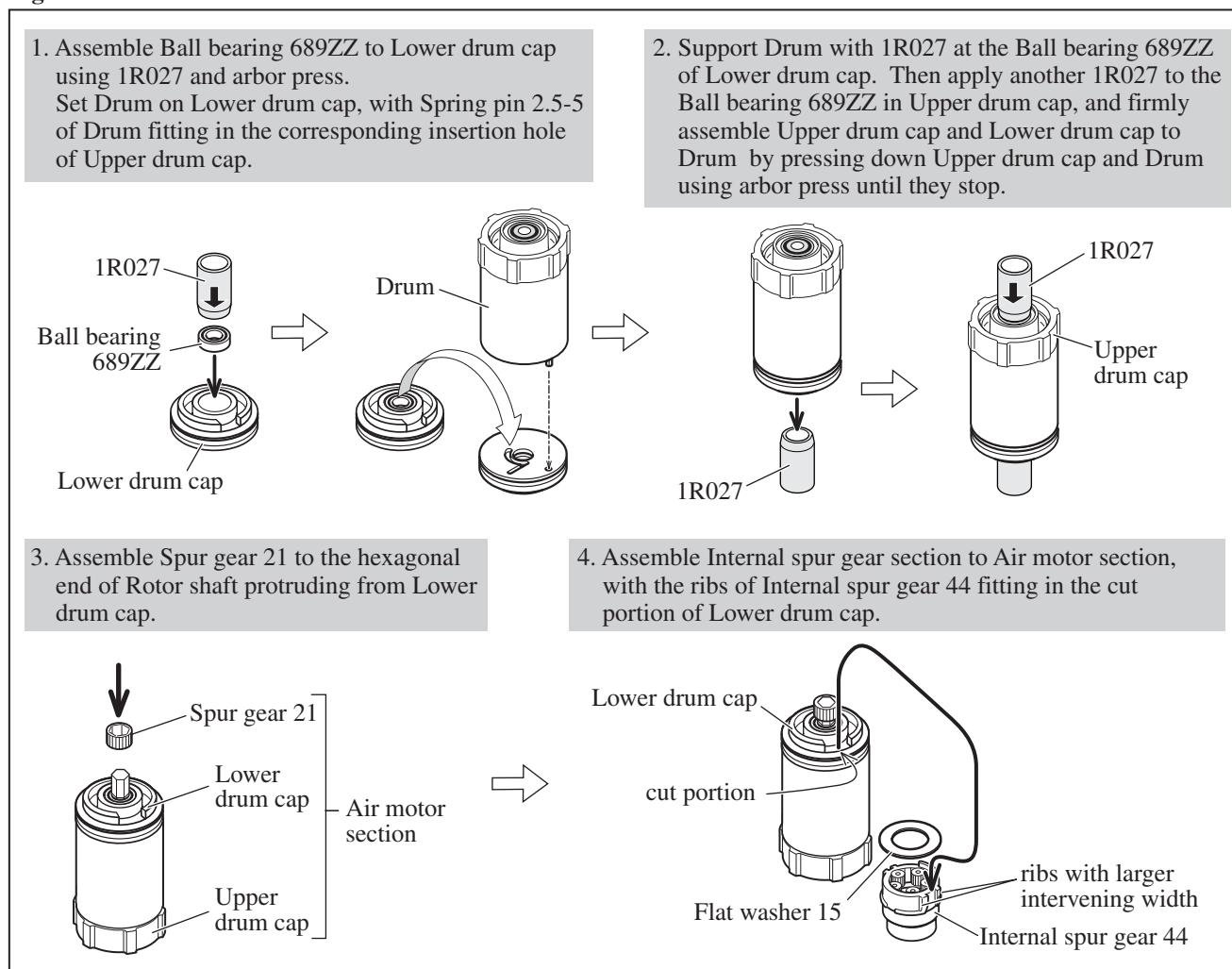
2) Assemble Upper drum cap to Drum as described in **Fig. 20**.

**Fig. 20**



3) Assemble Lower drum cap to Drum as described in **Fig. 21**.

**Fig. 21**



## ► Repair

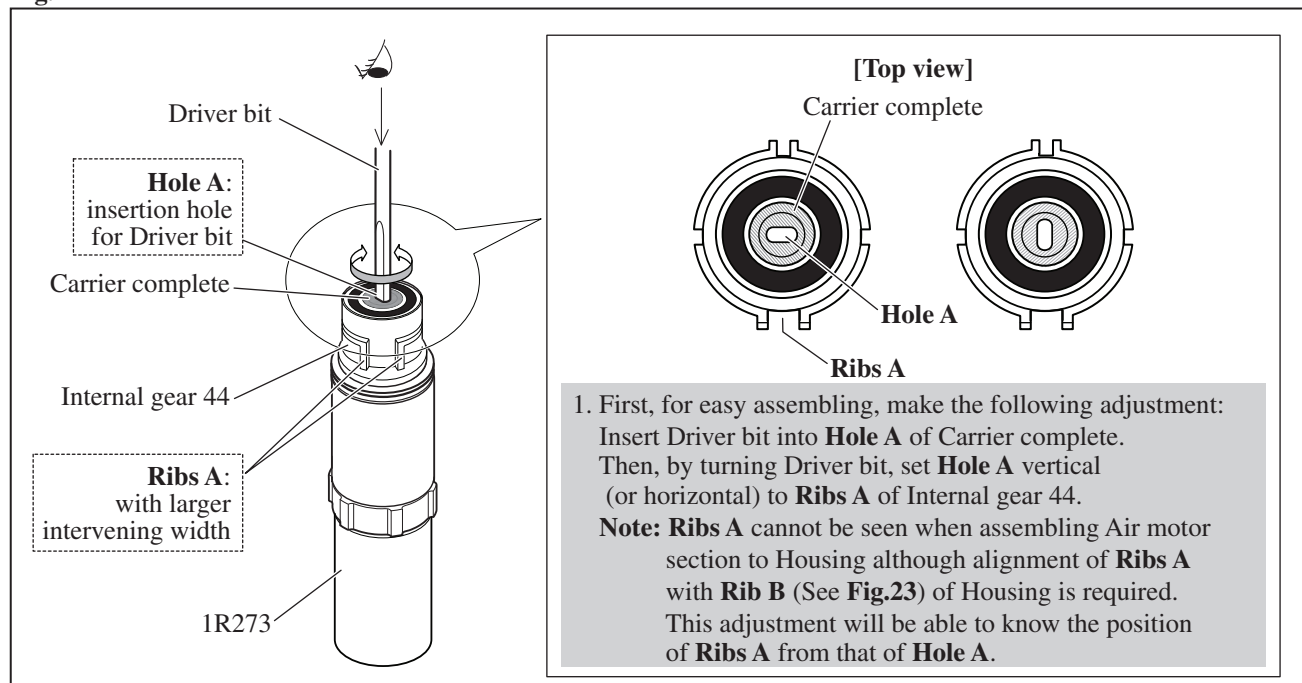
### [3] DISASSEMBLY/ASSEMBLY

#### [3]-5. Air Motor Section

##### ASSEMBLING

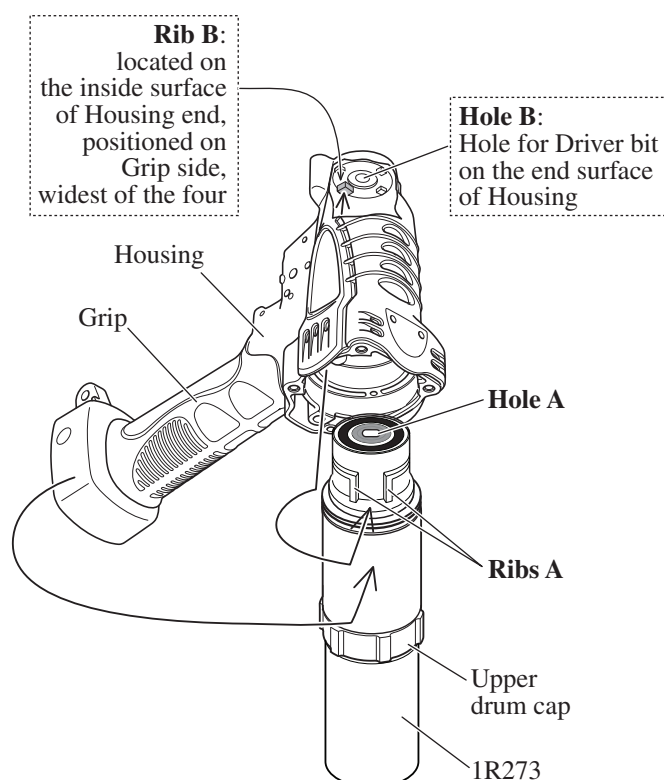
4) Assemble Air motor section to Housing as illustrated in **Figs. 22, 23**.

**Fig. 22**

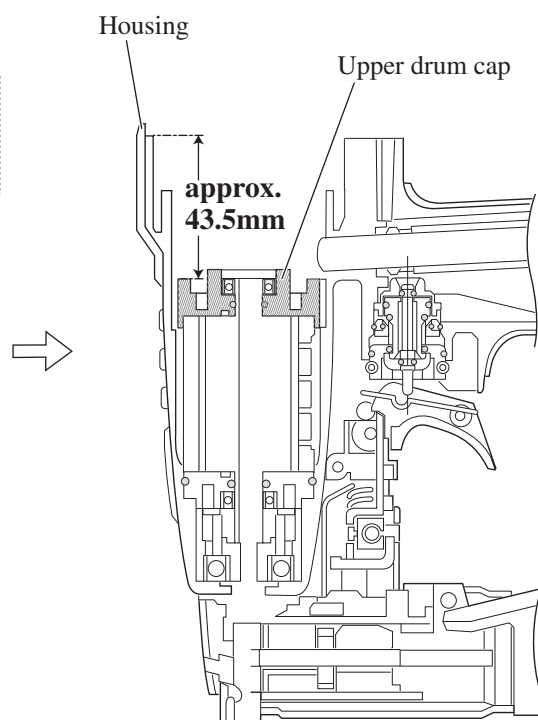


**Fig. 23**

2. Hold Housing over Air motor section on 1R273.  
In order to fit **Rib B** (located on Grip side inside Housing) in **Ribs A**, while watching **Hole A** through **Hole B** of Housing, turn Housing or Air motor section so that **Hole A** is positioned vertical (or horizontal) to Grip.  
Put Housing down over Air motor section until it stops.



3. Make sure that Air motor section is properly assembled to Housing by measuring the depth indicated in the illustration below.  
The depth will be approximately 43.5mm if properly assembled.



## ► Repair

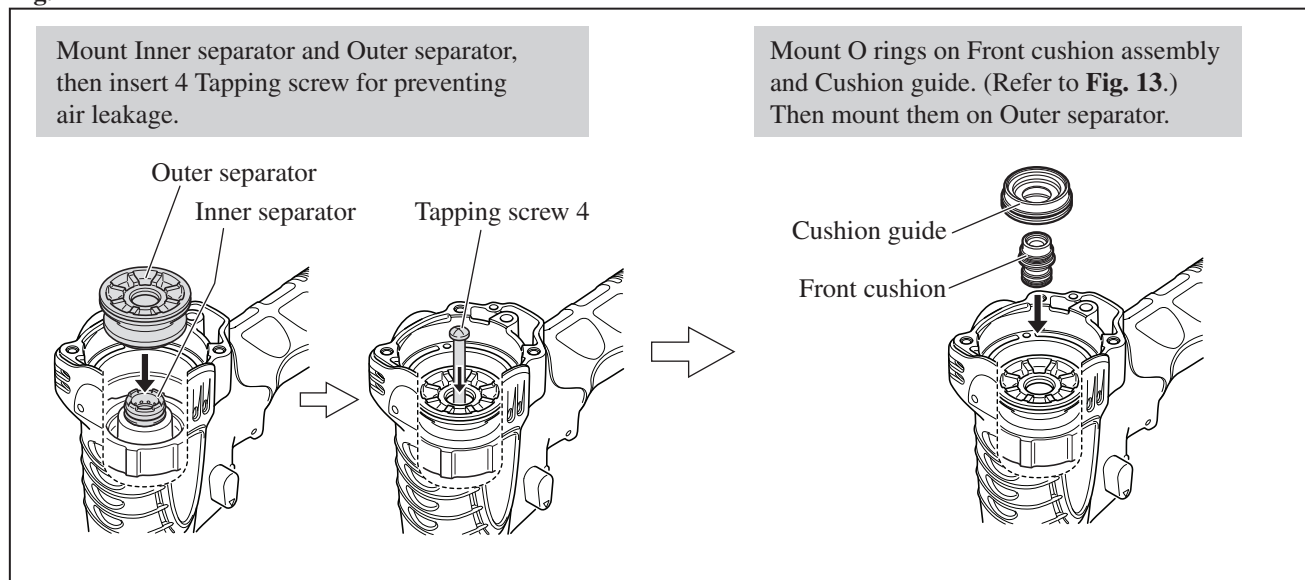
### [3] DISASSEMBLY/ASSEMBLY

#### [3]-5. Air Motor Section

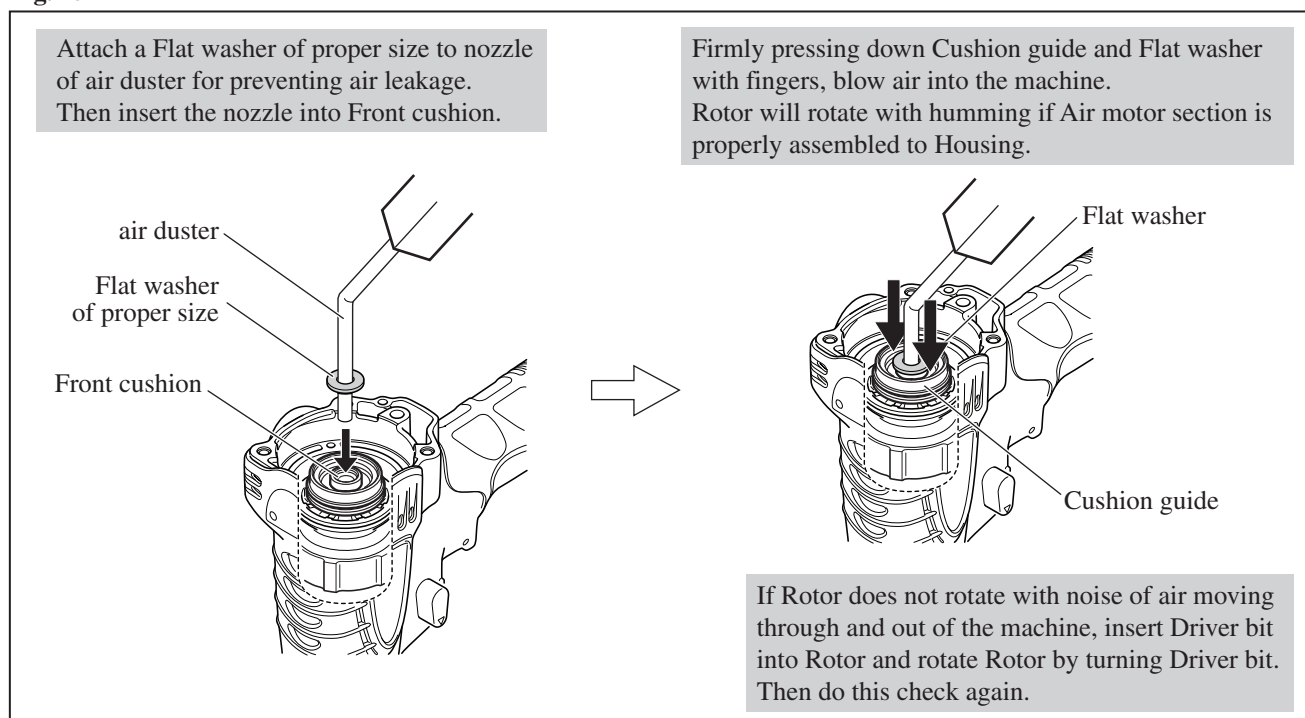
##### ASSEMBLING

5) Before assembling Cylinder section to Housing, make sure if Air motor section is properly assembled to Housing by doing the test as described in **Figs. 24, 25**.

**Fig. 24**



**Fig. 25**



6) Assemble Cylinder section to Housing. (**Fig. 12**)

7) Assemble Top cap section to Housing as illustrated on **left** in **Fig. 3**.

## ► Repair

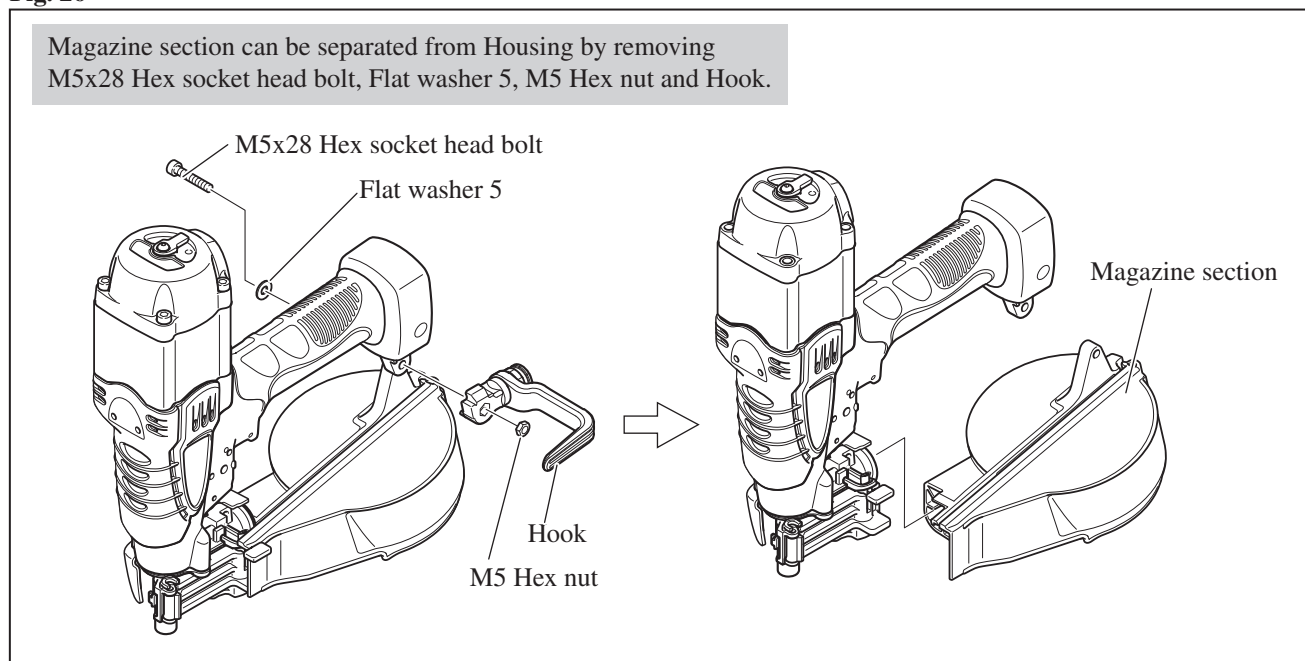
### [3] DISASSEMBLY/ASSEMBLY

#### [3]-6 Magazine Section

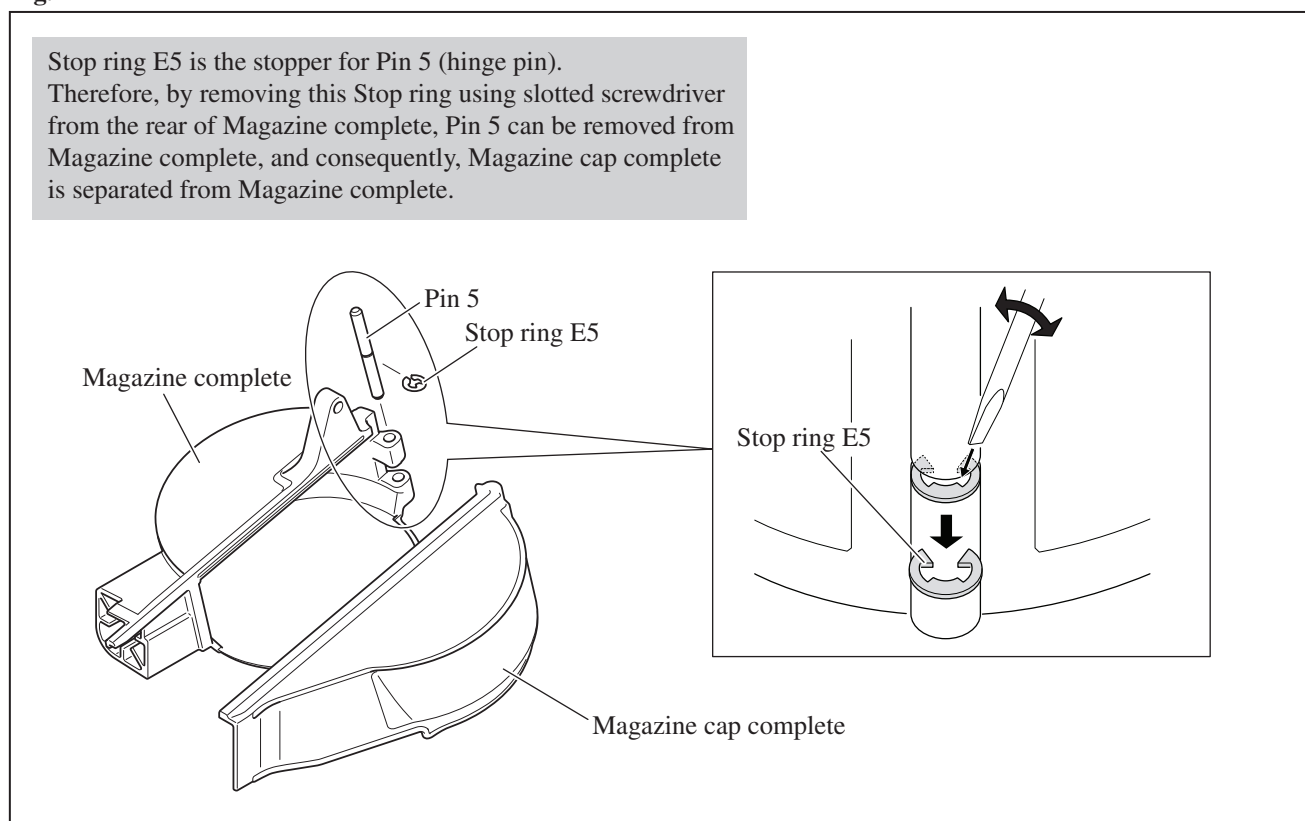
##### DISASSEMBLING

- 1) Separate Magazine section from Housing as described in **Fig. 26**.
- 2) The Magazine section can be disassembled as described in **Fig. 27**.

**Fig. 26**



**Fig. 27**





► **Repair**

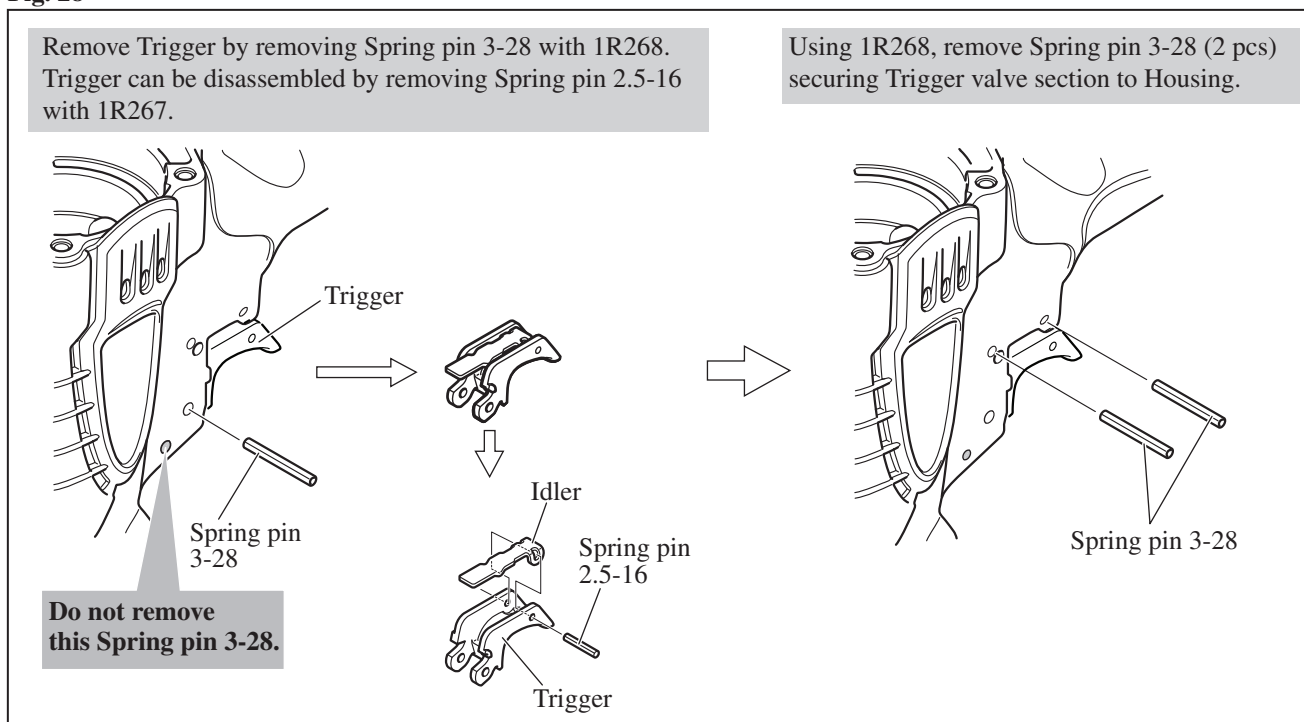
**[3] DISASSEMBLY/ASSEMBLY**

**[3]-7. Trigger Valve Section**

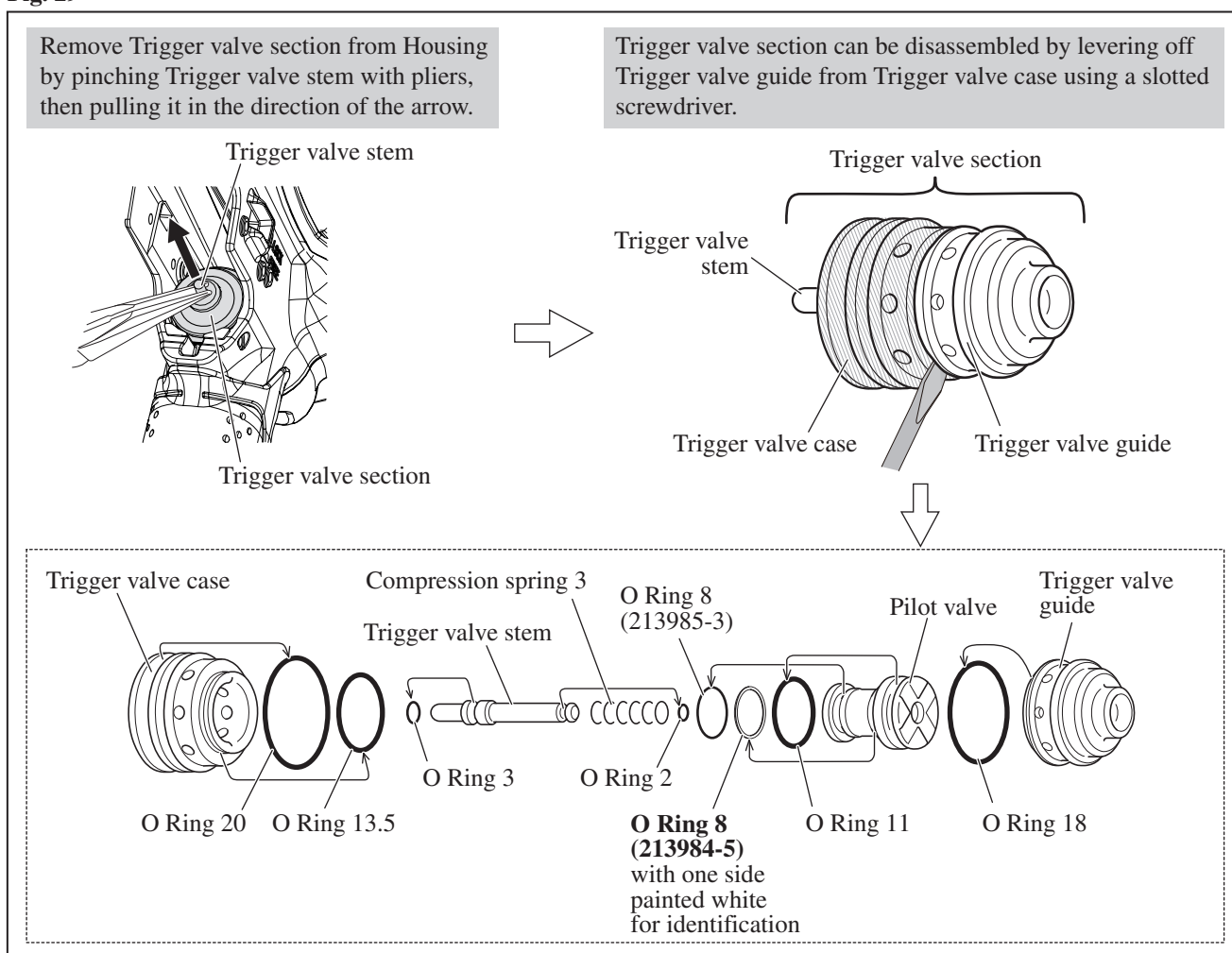
**DISASSEMBLING**

- 1) In order to separate Trigger valve section from Housing, first, remove Spring pin 3-28 (3 pcs) and Trigger. (**Fig. 28**)
- 2) Pull off Trigger valve section from Housing, then disassemble it as described in **Fig. 29**.

**Fig. 28**



**Fig. 29**



## ► Repair

### [3] DISASSEMBLY/ASSEMBLY

#### [3]-7. Trigger Valve Section

##### ASSEMBLING

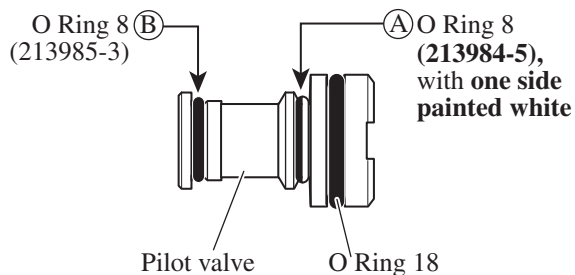
- 1) Mount O rings to Pilot valve as described in **Fig. 30**.
- 2) Assemble Trigger valve section. (Refer to the bottom illustration in **Fig. 29**.)

When assembling Trigger valve guide to Trigger valve case, push it toward Trigger valve case until it snaps in place.

**Fig. 30**

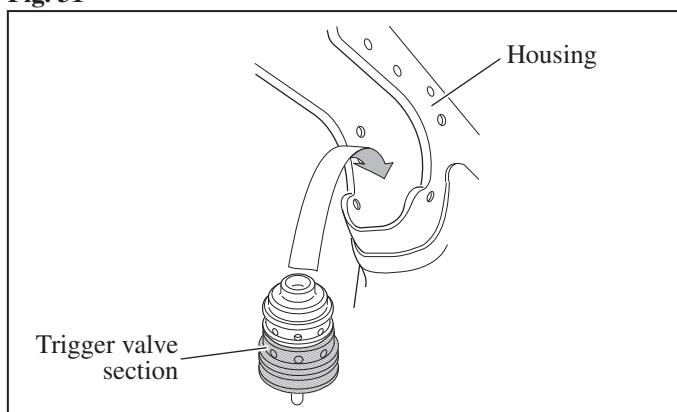
Two different kinds of O rings of size 8 are mounted on Pilot valve:

- Ⓐ O Ring 8 (213984-5), of Nitrile rubber, with **one side painted white** for identification
  - Ⓑ O Ring 8 (213985-3), of Urethane rubber
- Do not confuse these two O rings because they are not interchangeable, and be sure to mount them in position as illustrated on right.



- 3) Set Trigger valve section in Housing as illustrated in **Fig. 31**.

**Fig. 31**

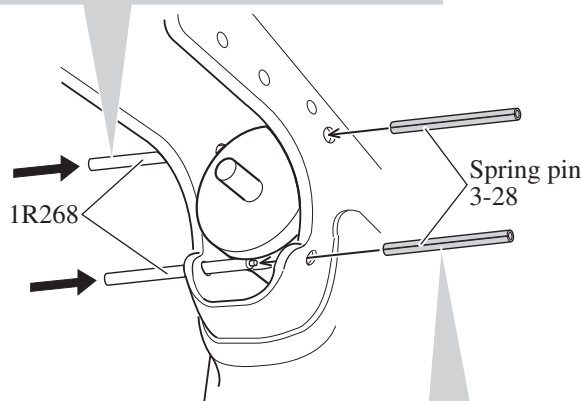


- 4) Secure Trigger valve section to Housing with Spring pin 3-28 as described in **Fig. 32**

**Fig. 32**

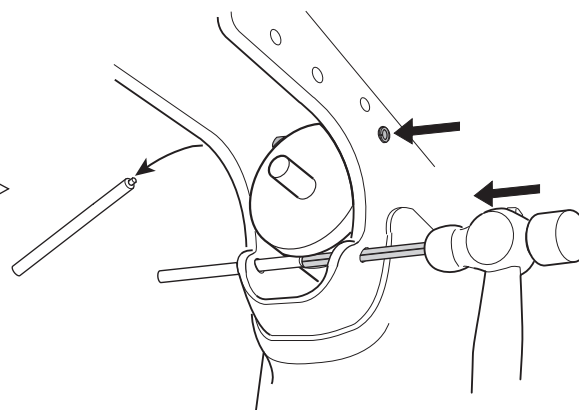
Use 1R268 as a guide jig as illustrated below.

1. Insert two 1R268's through Housing in the groove of Trigger valve section.



2. Then insert Spring pin 3-28 from the opposite side, and fit its hole over the stepped end of 1R268.

Strike the Spring pin 3-28 gently and repeatedly until 1R268 is pushed out from Housing.



## ► Repair

### [3] DISASSEMBLY/ASSEMBLY

#### [3]-8. Adjuster, Contact Arm Assembly

##### DISASSEMBLING

- 1) Separate Driver guide section from Housing, then separate Contact arm assembly from Driver guide section. (Fig. 33)
- 2) Disassemble Contact arm assembly as described in Fig. 34.

Fig. 33

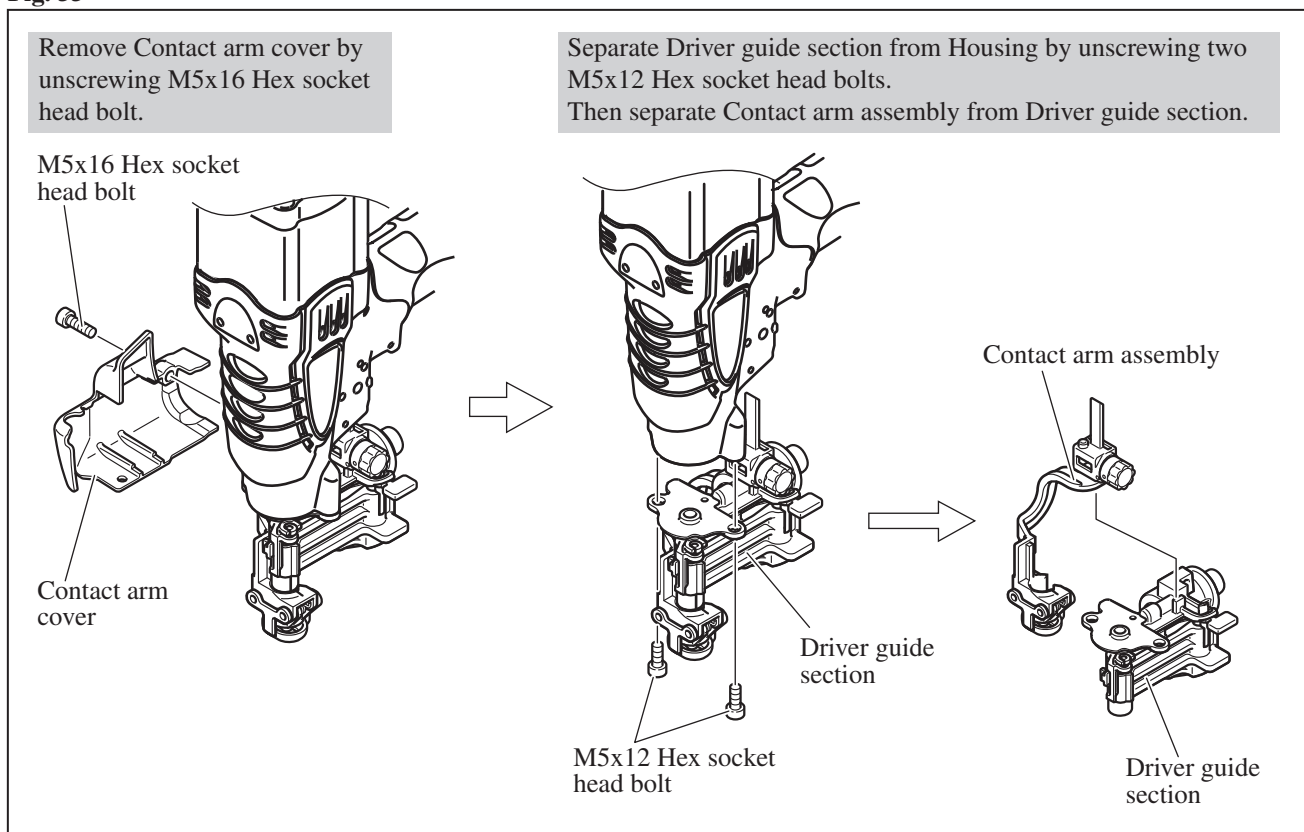
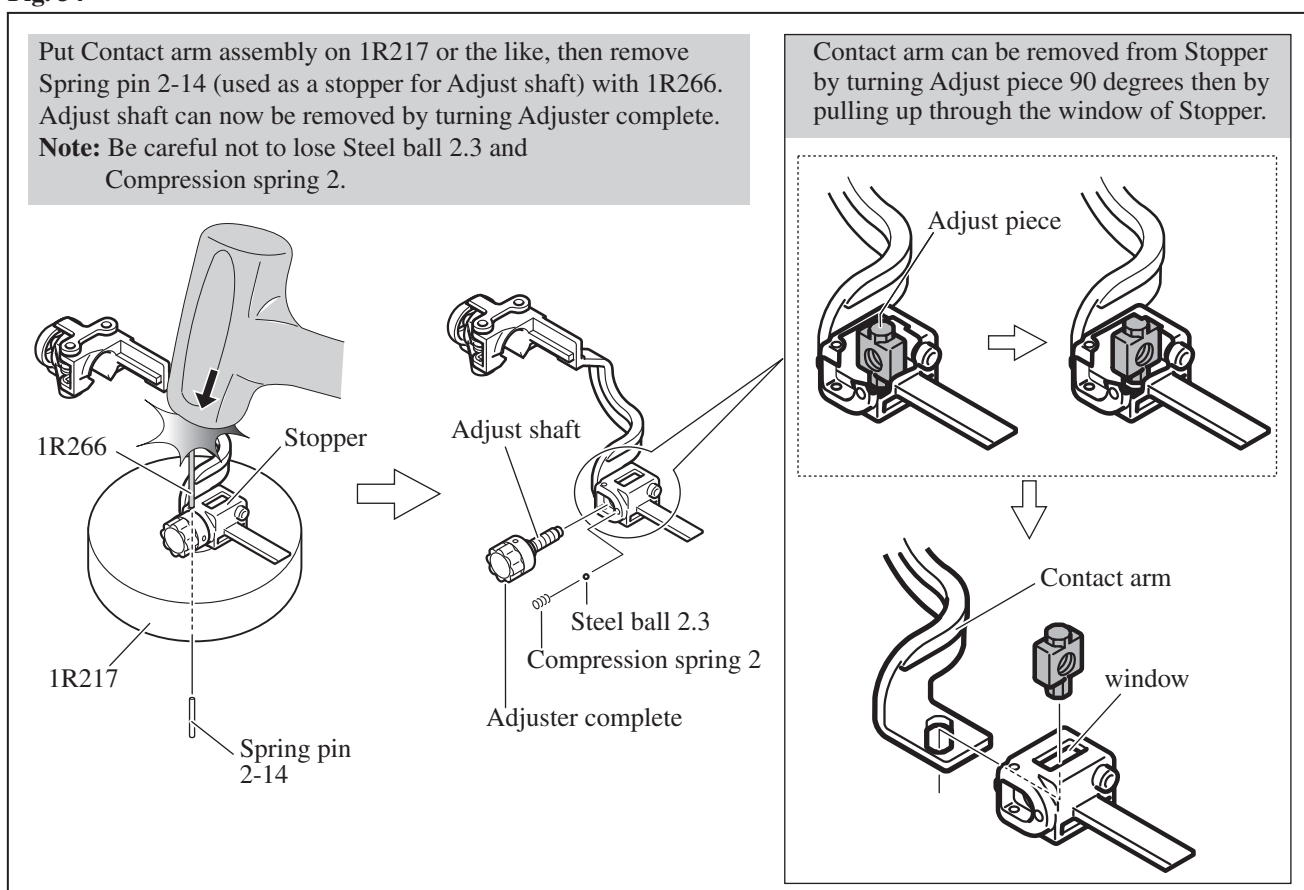


Fig. 34



► **Repair**

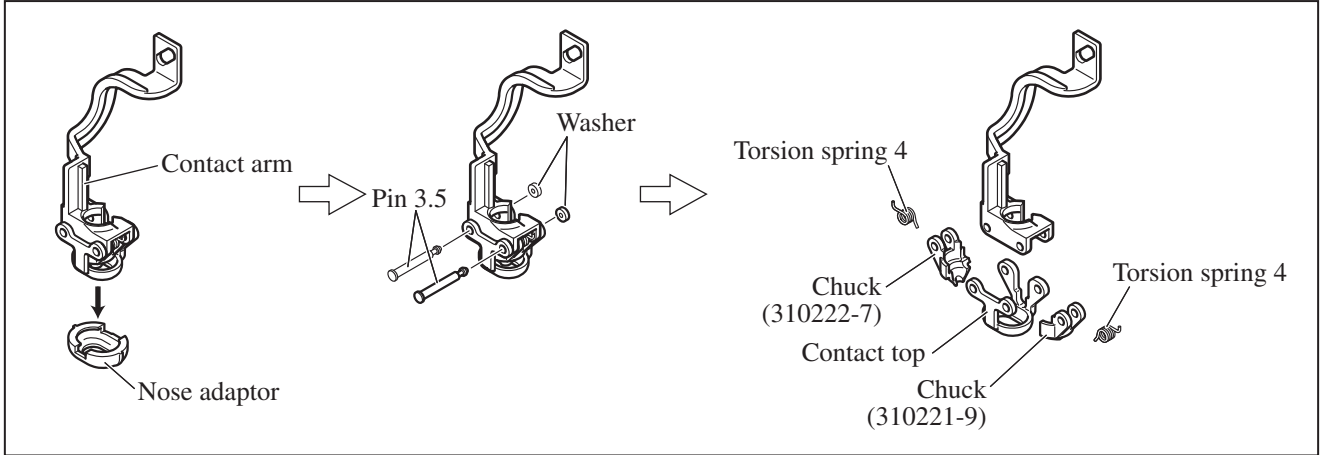
**[3] DISASSEMBLY/ASSEMBLY**

**[3]-8. Adjuster, Contact Arm Assembly**

**DISASSEMBLING**

3) The parts of Chuck portion can be disassembled from Contact arm as illustrated in **Fig. 35**.

**Fig. 35**

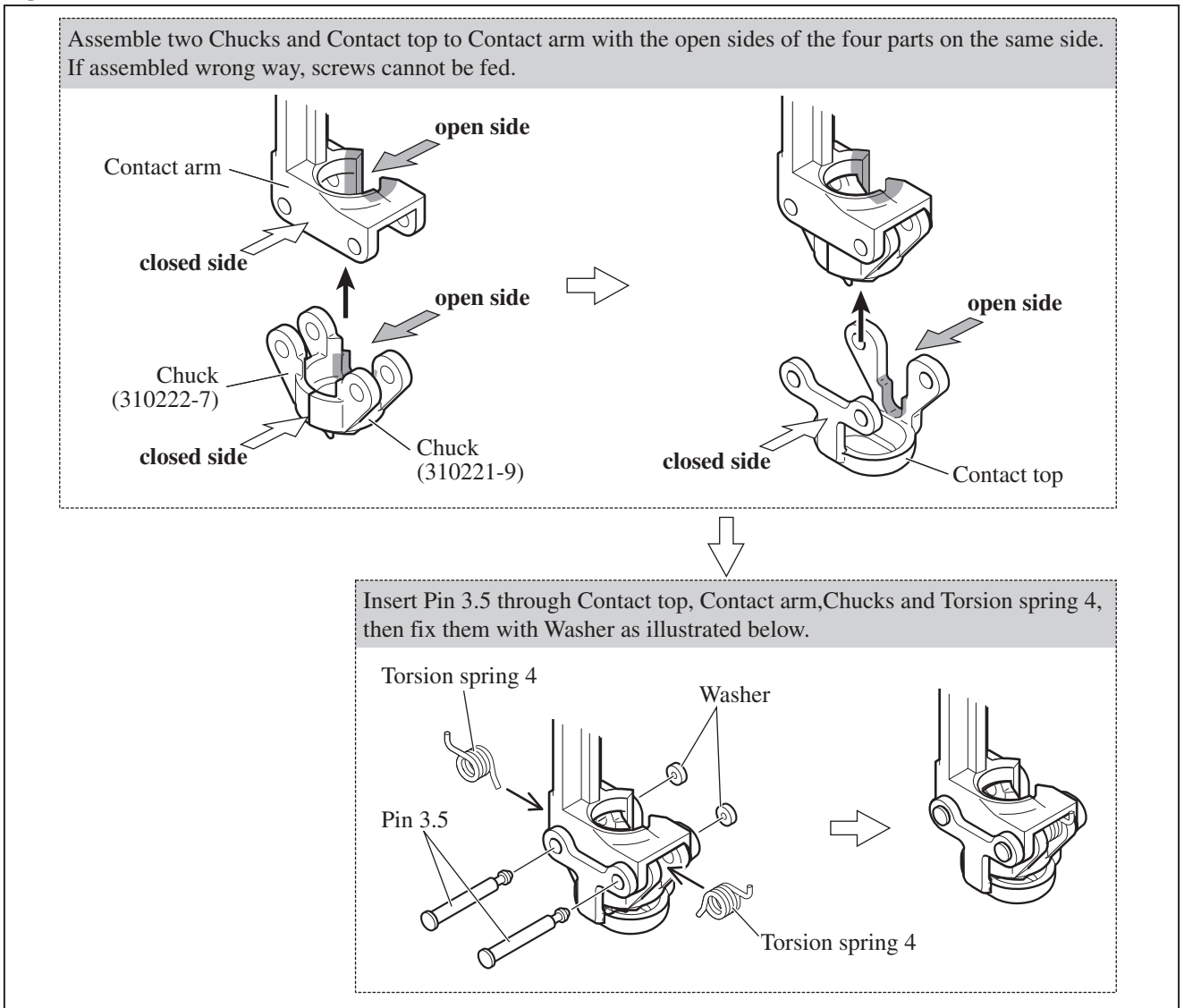


**ASSEMBLING**

1) Assemble the parts of Chuck portion to Contact arm as described in **Fig. 36**.

2) Then do the reverse of the disassembling steps. (See **Figs. 34, 33**.)

**Fig. 36**



► **Repair**

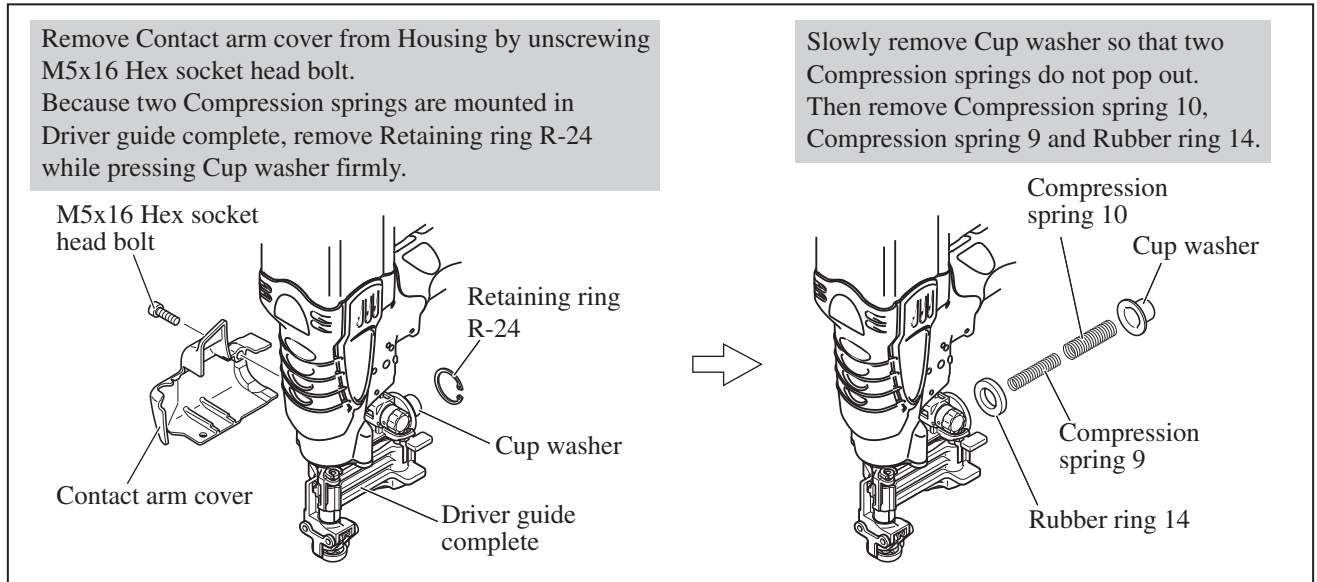
**[3] DISASSEMBLY/ASSEMBLY**

**[3] -9. Driver Guide, Feed Piston**

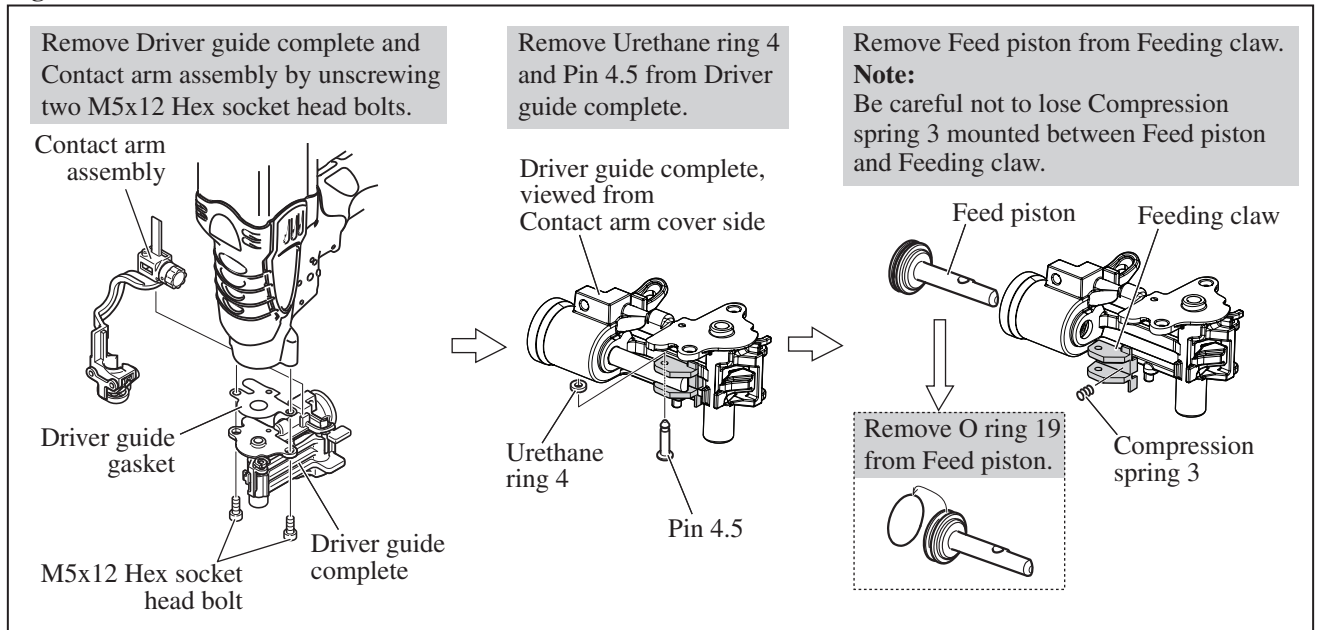
**DISASSEMBLING**

1) Disassemble Driver guide section and Feed piston as described in **Figs. 37, 38, 39.**

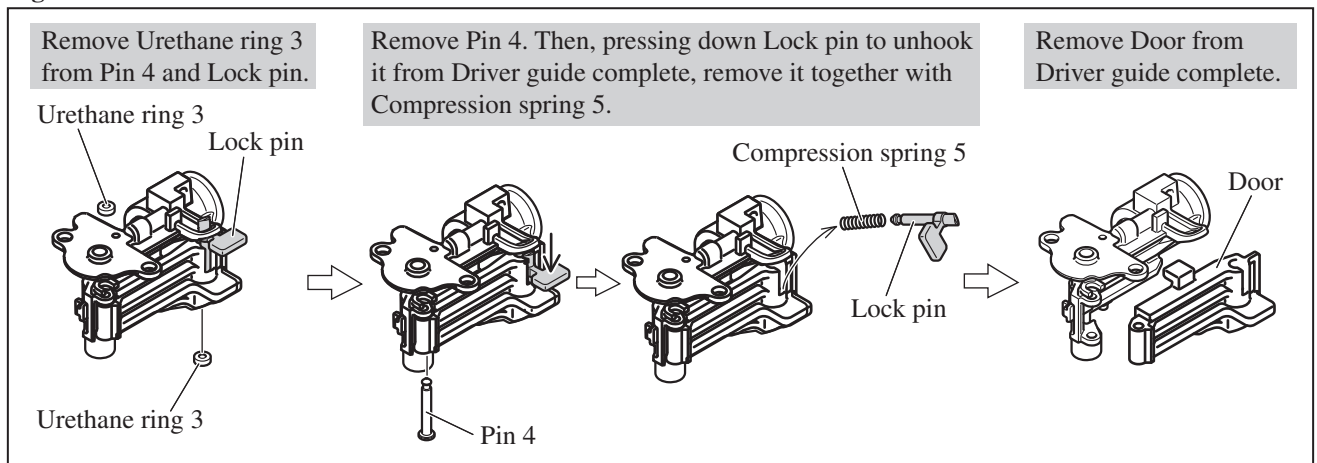
**Fig. 37**



**Fig. 38**



**Fig. 39**



► **Repair**

**[3] DISASSEMBLY/ASSEMBLY**

**[3]-9. Driver Guide, Feed Piston**

**ASSEMBLING**

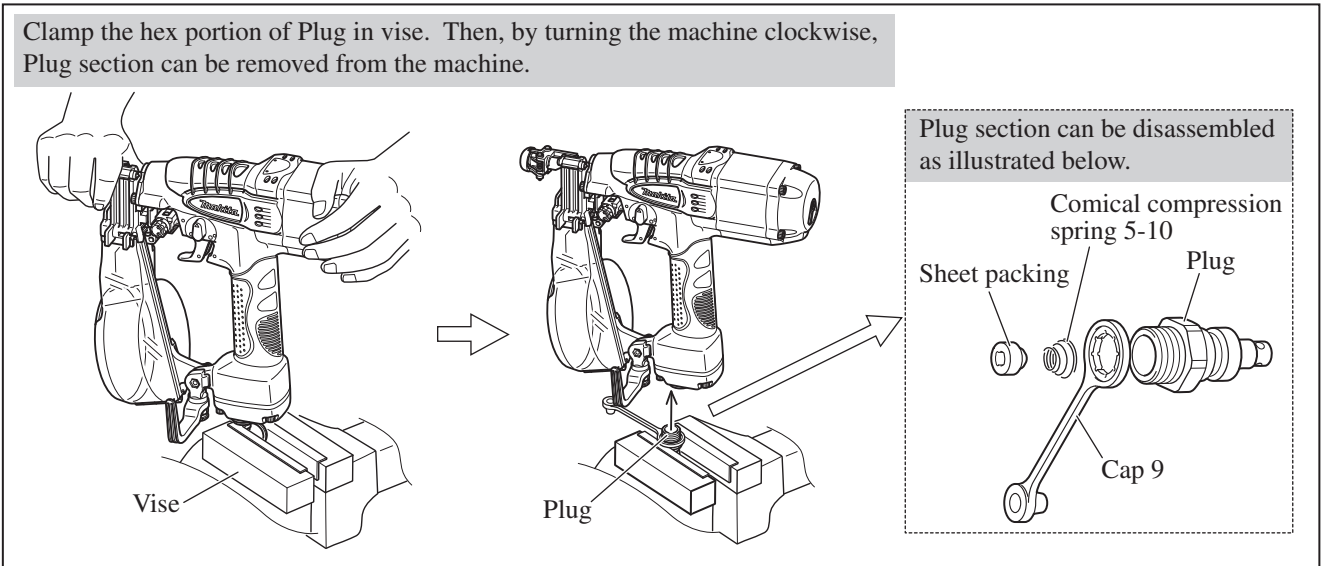
Do the reverse of the disassembling steps. (Refer to **Figs. 39, 38, 37.**)

**[3]-10. Inlet Cap, Plug**

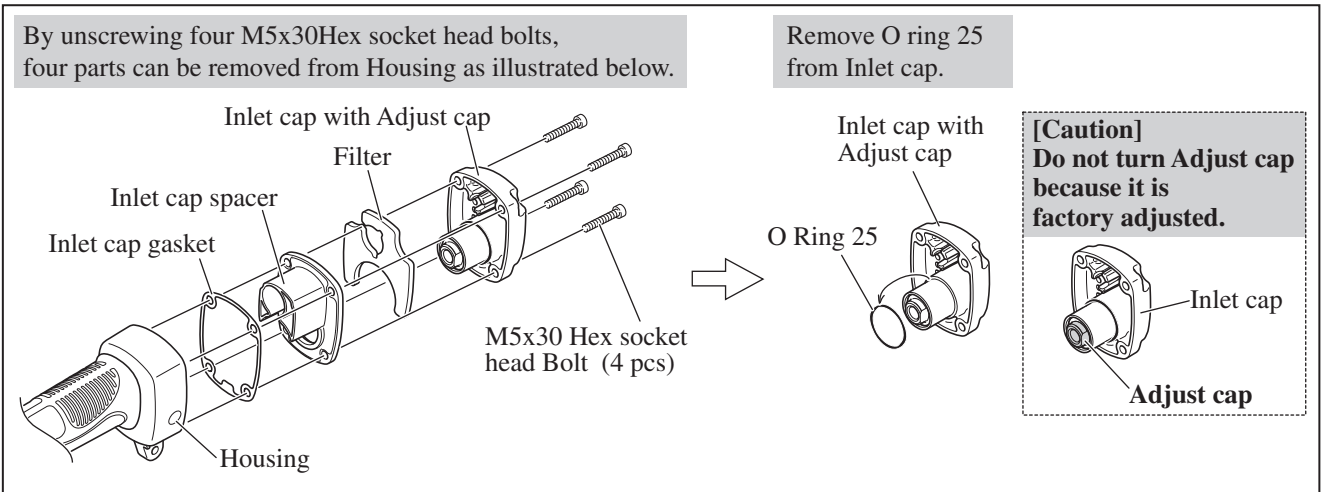
**DISASSEMBLING**

Disassemble Plug and Inlet cap as described in **Figs. 40, 41, 42.**

**Fig. 40**



**Fig. 41**



**Fig. 42**

